DOCUMENT RESUME

ED 391 283 EC 304 532

AUTHOR	Whitson, Joanne B.
TITLE	Wyoming Deaf/Blind Grant. Final Report.
INSTITUTION	Wyoming State Dept. of Education, Cheyenne.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	8 Jan 96
CONTRACT	025A90040-91
NOTE	119p.; Photographs may not reproduce well.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Children; *Deaf Blind; Disability Identification; Educational Methods; Elementary Secondary Education; Infants; *Inservice Education; Language Acquisition; Multiple Disabilities; Parent Education; Preschool Education; *State Programs; *Technical Assistance
IDENTIFIERS	*Wyoming

ABSTRACT

This final report describes activities and accomplishments of the Wyoming Deaf-Blind Grant, a 3-year federally supported project to identify children who have deaf-blindness and to provide technical assistance in the development of educational services for these children. Major accomplishments of the project included: identification of more children with deaf-blindness (from a total of 23 in 1992 to 36 in 1995); conducting biannual clinics for deaf/blind/multi-impaired children; dissemination of information about the needs of children with dual sensory impairments; and technical assistance to families and service providers. Extensive appendices include a listing of the technical assistance training sessions provided, and various letters, forms, and reports of the project. These latter include the following: a sample student assessment; sample consultation reports; "Developing Prelanguage Communication in the Severely Handicapped: An Interpretation of the Van Dijk Method" (Robert D. Stillman and Christy W. Battle); "Overview of the Van Dijk Curricular Approach" (Stephanie Z. C. MacFarland; a description of the Pediatric Epilepsy Inpatient Program; General Guidelines for Vision Stimulation; and photographs of guided movement. (DB)

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ED 391 283

WYOMING DEAF/BLIND GRANT
PR/AWARD #025A90040-91
Final Report

submitted to

U.S. Department of Education
Office of Special Education Programs/DPAP/POB
Services for Children with Deaf/Blindness Program

submitted by

Wyoming Department of Education
Services f/t Visually Impaired Outreach Unit
Carbon Building Room 325
Rawlins, Wyoming 82301
Joanne B. Whitson
307-324-5333

January 8, 1996

EC 304532

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ABSTRACT

The Wyoming Department of Education 1992-1995 Deaf-Blind Grant was established for the purpose of identifying children who have deaf-blindness and to provide technical assistance in the development of educational services for those children in the State of Wyoming.

The grant had the following objectives:

1. Systematic identification of children with deaf-blindness within the State of Wyoming.

2. Identification of resources and personnel within the State of Wyoming as well as the region.

3. Assessment of training and technical assistance needs of the personnel and families involved in the education of children with deaf-blindness.

4. To provide technical assistance to service providers of children with deaf-blindness and to assess and help develop Individual Educational Programs for each child.

5. To provide technical assistance, training and support services to assist programs in exploration of options for transition services for children with deaf-blindness.

6. To provide support services and technical assistance to parents and families of children with deaf-blindness.

7. Disseminate information on effective approaches for working with children with deaf-blindness, to enhance the general knowledge and awareness of service providers, pre-service personnel and community groups.

8. Disseminate information to the Native American population and school districts regarding the deaf-blind project.

9. Establish a computerized state registry of persons who are deaf-blind and to provide collaborative use of that data for developing services for those individuals.

A copy of this Final Report has been sent to ERIC.

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I. GOALS AND OBJECTIVES

Specific Objectives for the Three Year Project

OBJECTIVE 1.

Systematic identification of children with deaf-blindness within the state of Wyoming.

The project coordinator has worked with the Wyoming Department of Education S.E.E.D.S. Count, preschool directors, school district special education directors, pediatricians, public health and Part H to locate children with deaf-blindness. The Wyoming Department of Education has six outreach staff for the visually impaired and three outreach staff for the hearing impaired. The project coordinator has worked in conjunction with the outreach staff to locate dual sensory impaired children as well.

The project coordinator presented information regarding the services available and how to identify children with dual sensory impairments to the above agencies.

In addition, the project coordinator organized bi-annual Deaf/Blind/Multi-Impaired Clinics for the identification of children with deaf-blindness. The clinics were made up of a medical team consisting of Audiologists, ENT, Low Vision Specialists, Ophthalmologists, Optometrists, Pediatricians, Psychologist and the Wyoming Early Intervention Assessment Team (WEIAT) consisting of Hearing Impaired Teachers, Occupational Therapists, Physical Therapists, Speech/Language Clinicians, Social Workers, and Vision Impairment Teachers.

OBJECTIVE 2.

Identification of resources and personnel within the Sate of Wyoming as well as the Region.

For each clinic, information was sent to the new special education directors, current directors, public health nurses, pediatricians, preschool directors, private schools, Native American schools, Wyoming Independent Living, Part H, Wyoming Department of Public Health, and Wyoming Department of Education, Outreach Staff.

The project coordinator worked closely with the Governor's Early Intervention Council, Wyoming Preschool Directors and Wyoming Department of Public Health regarding the project and any changes being implemented.

The project coordinator was a member of the Infant Hearing Screening Committee (a pilot project between the Wyoming Department of Education/Deaf-Outreach Services and Wyoming Department of Health) and the Community Resource Center for Carbon County to disseminate information on the project and to tie into other projects being conducted throughout the State.

The project coordinator submitted articles for State publications, "The Visionary" and "Information to Share" regarding the services provided by the project.

In addition, the project coordinator located new team members as the situations arose. This broadened the base of providers with a better understanding of deaf-blindness.

The project coordinator attended the TRACES Western Region technical assistance training offered twice a year to keep abreast of what the other states in the region were doing, who was able to provide technical assistance, and best practices for children with deaf-blindness.

OBJECTIVE 3.

Assessment of training and technical assistance needs of the personnel and families involved in the education of children with deaf-blindness.

The project coordinator offered the Wyoming Early Intervention Assessment Team (WEIAT) opportunities for technical assistance. The project incorporates the "Trainer of Trainer" models. This includes having the project sponsor team members for training. They in turn then train the remaining team members. This information is then passed on through technical assistance offered at the bi-annual clinics to service providers, family members and parents of children with deaf-blindness. A list of the training attended is provided in Appendix A.

The project coordinator attended the technical assistance training offered through TRACES Western Region as well. This information was shared with the team members.

The project coordinator attended the Project Director's meeting each fall to learn of the various technical

assistance offered through the states and what would be appropriate for rural families in Wyoming.

OBJECTIVE 4.

To provide technical assistance to services providers of children with deaf-blindness and to assess and help develop individual educational programs for each child.

The project coordinator organized bi-annual clinics. The purpose of the clinics was to provide identification of deaf-blindness and to assess and develop individual programs for the child based on the problems and questions the school has concerning the child and his/her needs.

The special service coordinators, Native American schools, private schools, public health nurses, pediatricians and preschools received a letter describing the clinic with an application form and needs assessment form for the service provider to fill out. This was to be submitted prior to the clinic with a video depicting these areas of concern. The team members reviewed this material prior to the clinic. The team then offered technical assistance in those areas listed during the clinic to the service providers demonstrating the activity/therapies with the child. Following the clinic, a final report was submitted including the findings of the team members and their recommendations. A copy of the application, letters, and final reports can be found in appendix B.

OBJECTIVE 5.

To provide technical assistance, training and support services to assist programs in exploration of options for transition services for children with deaf-blindness.

This objective was ongoing with the bi-annual clinics. The team offered technical assistance to the service providers in development of action plans for transitioning from home to school, pre-school to school, LEA's to regular classrooms, elementary to middle school, middle school to high school, and high school to the work force. The technical assistance was offered by the teams to the service providers at the clinic with a follow-up final report including recommendations for the transitioning of the student to their next developmental step.

OBJECTIVE 6.

To provide support services and technical assistance to parents and families of children with deaf-blindness.

This objective was ongoing with the bi-annual clinics. The parents were required to fill out a needs assessment form of specific problems they were experiencing with their child prior to attending the clinic. The team received copies of this. The team and project coordinator then offered technical assistance to families and parents in the areas mentioned. In addition, the parents and families received "hands on" technical assistance training during the clinic with their child.

A social worker was available to the parents during their waiting time, at the clinic, to help them better understand the intricacies of the I.E.P., the parents' and child's rights, and what services are available in the state.

The parents were introduced to each other at the beginning of each clinic for an impromptu support group. Many of the parents shared information with each other on "how to ..." during this time. They were also encouraged to discuss the clinic and think about suggestions that would be discussed during the "exit interview".

The parents were given an exit interview at the end of each clinic for their input. The parents discussed changes they would like to see happen prior to the next clinic. The project coordinator implemented the suggestions for future clinics.

The parents were sent an evaluation form following each clinic. They were asked if they would like to be placed in touch with support groups and if further technical assistance was required. A copy of the report was sent to the parents, schools, and the outreach staff for visually impairment and hearing impairment.

OBJECTIVE 7.

Disseminate information on effective approaches for working with children with deaf-blindness, to enhance the general knowledge and awareness of service providers, pre-service personnel and community groups.

The project coordinator offered in-services to any group requesting them. Information was sent to the WEIAT, parents and service providers during the project. The

project coordinator gave a presentation during the Wyoming Department of Education Summer Conference.

The project coordinator had started collaborating with the Wyoming Independent Living Rehabilitation agency discussing the possibility of doing a presentation concerning deaf-blindness and the services available from the new 1996 project during their Mega Conference in 1996.

The project coordinator worked with the various councils in Wyoming informing them of the project and what it entails.

The project coordinator attended the Project Director's Meeting each year to learn what other state's where doing and then disseminated that information to those team members in Wyoming.

OBJECTIVE 8.

Disseminate information to the Native American population and school districts regarding the deaf-blind project.

The school districts on the Native American reservation lands received all of the information concerning the bi-annual clinics. They also received the State publications.

The project coordinator is a member of the "Great Plains Regional Alliance". The Alliance began work on development of strategies to work with the Native American population. The Alliance is made up of: TRACES North Central Region, 307.11 project coordinators/directors from the states of South Dakota, North Dakota, Nebraska, Minnesota, Montana, and Wyoming. The project coordinator attended two meetings starting this project in 1995. This will carry over into the new 1996 grant.

Native American children, their families and service providers have attended each clinic. Due to this, technical assistance was given to the service providers on the reservation lands. This information can then be used with other children with dual sensory impairments.

The project coordinator contacted a Native American family for input on the 1996 grant. The family stated they did not see any need for changes and appreciated the approach the new project would be taking.

OBJECTIVE 9.

Establish a computerized state registry of persons who are deaf-blind and to provide collaborative use of that data for developing services for those individuals.

This activity was begun with the technical assistance provided by Dr. Vic Baldwin and TRACES. There have been some glitches in this program, but they are being work out. The registry of children with deaf-blindness has been computerized and is being worked on each year at the deaf-blind count. This program will aid in keeping better track of the children with deaf-blindness within the State. The project coordinator updated the forms that were sent to the school districts and preschools for more comprehensive information. This is an ongoing project that will take more time to finalize.

II. ACCOMPLISHMENTS OF PROJECT

The Wyoming Department of Education feels this has been a highly successful three year project. The bi-annual Deaf/Blind/Multi-Impaired clinics provided help in the following areas: the identification of several more children with deaf-blindness, the dissemination of information has lead to a more comprehensive understanding of the specific and special needs of children with dual sensory impairments, and the technical assistance offered during the clinics has been a key in understanding what the deaf-blind child can accomplish with the proper educational plan.

In the three year grant cycle, 63 children were seen by the team members at a Deaf/Blind/Multi-Impaired Clinic, along with the families, parents and service providers. The break down is as follows:

Spring 1993 - 13 children
Fall 1993 - 10 children
Spring 1994 - 11 children
Fall 1994 - 11 children
Spring 1995 - 7 children - 15 were signed up, but 8 could not attend due to illness and parents schedule.
Fall 1995 - 11 children

The child count for children with deaf-blindness has gone up and down since this grant cycle. In 1992, the State of Wyoming submitted a count of 23 children. In March, 1995, the State of Wyoming submitted a count of 36 children with deaf-blindness. The difference is not only in the amount of children identified, but also in the accuracy of the information for each child.

The clinics have offered more information to both the families and service providers. The clinic itself is viewed as a means of locating information regarding dual sensory impairments and a place to meet with other parents or families going through the same difficulties.

From the technical assistance provided during the clinic, the child gains more independence. The families and service providers gain improved confidence when working with the child. As a result, a clearer understanding of the special needs and desires of a child with deaf-blindness are cared for more effectively.

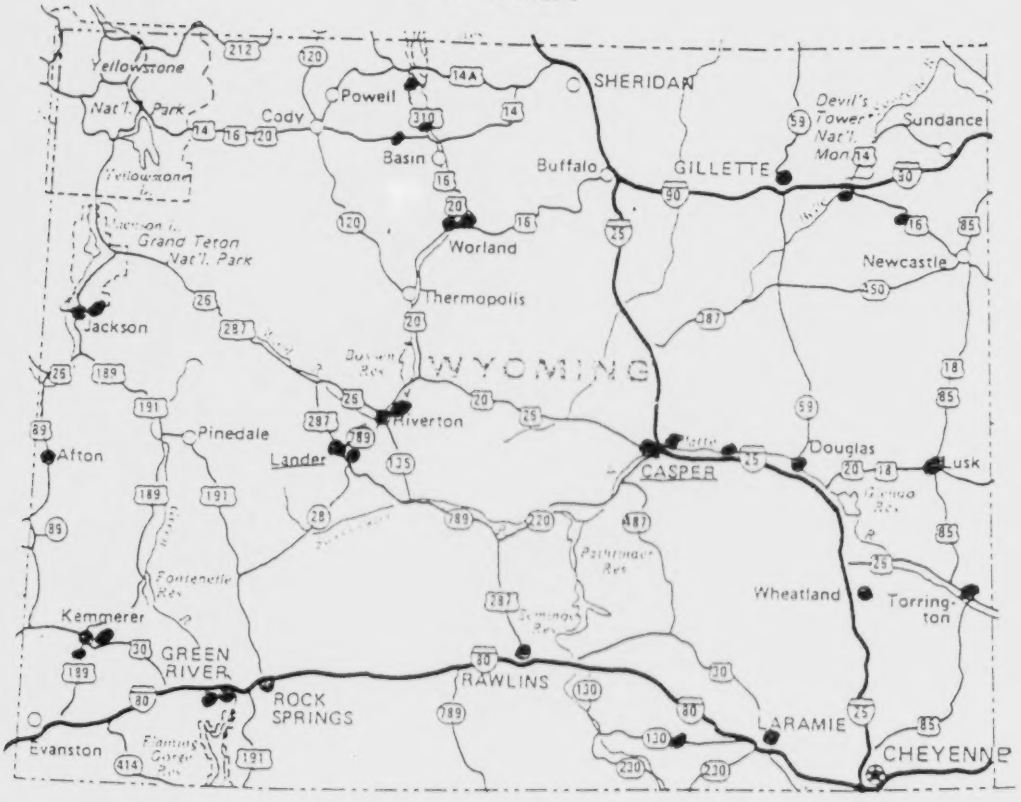
The transition of the WEIAT members in the clinic has been a highly successful accomplishment. The WEIAT has changed from time to time with new team members being added as others move on. This has allowed for more individuals to have a better understanding of the specific and special needs of the deaf-blind child. It has also increased the work force of those service providers in the field.

In addition, some of the medical team members have changed as well. This teaches the medical community the needs of the child with deaf-blindness as well as the services the project has to offer.

Wyoming is a large rural state with services and service providers spread far and thin. With the team members changing and learning about the deaf-blind community, there are more service providers available who understand the needs of children with deaf-blindness.

MAP OF WEIAT MEMBERS
AND
MEDICAL TEAM MEMBERS
FROM THE
DEAF/BLIND/MULTI-HANDICAPPED CLINICS

MAP OF WYOMING



Square Miles: 97,914 Total Population: 453,588

Red - Home towns of Children who have attended Clinics

Green - Identified Deaf/Blind children who have not attended Clinics

Blue - Sites of previous Deaf/Blind/Multi-Handicapped Clinics

* Depicts the towns where the various professionals come from.

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APPENDIX A

TECHNICAL ASSISTANCE TRAINING

The following is a list of Technical Assistance training/workshops attended by the WEIAT and or the project coordinator. Upon completion of a training, the WEIAT member reciprocates and trains the remaining team members.

October 1995	<u>Communication strategies for the Deaf-Blind</u>
Participants:	6 WEIAT members, project coordinator
Consultants:	Amy Rushforth O.T., Anne Meyer Speech/Language, Mary Williams Vision Teacher, Sharon Anderson Speech/Language
October 1995	<u>Promoting Partnerships: Leadership Training for Therapists in the Educational Setting</u>
Participant:	1 WEIAT
Consultants:	AOTA
July 1995	<u>Communication Strategies for the Deaf-Blind</u>
Participants:	4 WEIAT members
Consultants:	Perkins National Deaf-Blind Training
June 1995	<u>Communicable Disease - Cause & Effect How to Protect Yourself</u>
Participants:	WEIAT & project coordinator
Consultant:	Linda Gudmundsen, Nurse Mgr.
June 1995	<u>Usher Syndrome Screening Workshop</u>
Participants:	WEIAT & project coordinator
Consultant:	Sharon Anderson, Speech/Language
May 1995	<u>Usher Syndrome Screening Workshop</u>
Participant:	1 WEIAT member
Consultant:	Ski*Hi Institute
November 1994	Annual Project Directors Meeting
Participant:	project coordinator

October 1994	Grant Development & Regional Collaboration workshop
Participants:	Colorado, Montana 307.11 Project Directors project coordinator
Consultants:	TRACES Western Region Coordinators, Rich Mulholland, Paddi Henderson
October 1994	Communication & Assessment of Children Who are Deaf-Blind
Participant:	1 WEIAT member
Consultant:	Dr. Jan Van Dijk
September 1994	Low Vision Assessment and the Benefits for the Visually Impaired
Participants:	WEIAT & project coordinator
Consultant:	Dr. Sue Lowe
September 1994	Sensory Integration to Promote Language Fluency
Participants:	WEIAT & project coordinator
Consultants:	Amy Rushforth O.T.
September 1994	Development of Evaluation Strategies for Deaf-Blind Projects
Participants:	307.11 Project Directors Western Region
Consultants:	TRACES Western Region Coordinators Rich Mulholland & Paddi Henderson
August 1994	Identification & Prioritizing Issues as they Relate to the Native American Child with Deaf-Blindness
Participants:	307.11 Project Directors from South Dakota, North Dakota, Nebraska, Minnesota, Wyoming & TRACES North Central Region
Consultants:	Dr. Vic Baldwin TRACES/WSOC, Phyllis Graney 307.11 Project Coordinator, Julie Baumgarner and Margie Briley North Central Region Coordinators
July 1994	Adaptive Technology - Field Trip
Participants:	WEIAT, Dr. Lowe, project coordinator
Consultants:	Wy. Department of Education/Services f/t Visually Impaired Summer Camp

June 1994	<u>Assessing and Interacting with the Visually Impaired Child</u>
Participants:	WEIAT & project coordinator
Consultant:	Rhonda Donaldson O.T.
June 1994	<u>Inclusion Strategies & Team Building</u>
Participants:	WEIAT & project coordinator
Consultant:	Kathee Keller through TRACES
October 1993	Annual Project Directors Meeting
Participant:	project coordinator
October 1993	<u>Vision Screening</u>
Participants:	307.11 project directors Western Region & TRACES
Consultant:	Dr. Irene Topar
October 1993	<u>Occupational Therapy and the Visually Impaired Child</u>
Participants:	WEIAT & project coordinator
Consultant:	Rhonda Donaldson
September 1993	<u>Sign Language</u>
Participant:	project coordinator
Consultant:	Joan Zamora
September 1993	<u>Identifying Model Services for Parents & Families of Children with Deaf-Blindness</u>
Participants:	307.11 Project Directors Western Region
Consultants:	TRACES Western Region Coordinators, Rich Mulholland, Paddi Henderson, 4 parents
June 1993	<u>Transdisciplinary Evaluation Strategies & Team Building</u>
Participants:	WEIAT & project coordinator
Consultants:	TRACES Western Region, Rich Mulholland & Kathee Keller
May 1993	<u>The Identification of "Indicators of Effectiveness" & "Evaluations for Activities Represented with the Strategic Planning Matrix</u>
Participants:	307.11 Project Directors Western Region
Consultants:	TRACES Western Region Coordinators

April 1993	**Methodology & Screening Tools on Visual & Hearing Acuity**
Participants:	307.11 Project Directors from Arizona, New Mexico, Montana, Idaho, Nevada, & Wyoming TRACES Western Region, Rich Mulholland & Paddi Henderson, Dr. Vic Baldwin
Consultants:	Dr. Irene Topar, Dr. Kathee Keller, Jim Dean, Linda Reed and Ellen Goldman
October 1992	**Vision Screening for the Occupational Therapist**
Participant:	1 WEIAT member
Consultant:	Jenny Krack, OTR
October 1992	Annual Project Directors Meeting
Participant:	project coordinator

APPENDIX B

LETTERS, FORMS, REPORTS

Letter of Notification of Clinic dates

Application

School Interview Form

Letter of Acceptance - Parents

Parent Interview Form

Photography Release Form

Parental Release Form

Evaluation Form

Final Report - WEIAT I

Final Report - WEIAT II

August 1, 1995

1~
2?~
3?~
4~

Dear 5~,

The Deaf/Blind/Multi-Handicapped WEIAT (Wyoming Early Intervention Assessment Team) Clinic will be held on Friday, October 6, and Saturday, October 7, 1995 at the Child Development Center, in Lander, Wyoming.

The benefit of this clinic, over other evaluation programs, is a trans-disciplinary team providing an integrated assessment which considers and reflects the school's and family's concerns.

The clinic will begin Friday, at 11:00 am. At this time, the coordinator will explain the format of the clinic. The parents will also be introduced to the Parent Coordinator and each other. After introductions, the families will be allowed to leave for lunch and to check in to a motel. The families will be expected back by 12:30 pm.

Once the clinic starts, children (along with their parents and school personnel) will be directed to the different team members. The doctors see the child, parents and school personel on an individual basis. The WEIAT teams see each child, parents and school personnel in an arena setting. While waiting to be seen, the families will be encouraged to visit with each other and the Parent Coordinator.

At the end of Friday's sessions, a table discussion will take place. This will consisit of the doctors, WEIATs, parents and school personnel. At that time, issues regarding the student can be discussed with the entire team.

On Saturday, the families will finish being seen by the WEIAT members. This begins at 8:00 am and runs until approximately noon. At the end of this session, families and school personnel can ask additional questions of the WEIAT. After this, the families are free to leave.

There is a waiting list for each clinic. Keep this in mind when filling out the application for the clinic. If your student cannot

attend, contact the office the moment you know this, so this spot can be filled.

Following is a general list of the professionals and WEIAT members which may be available for the students to see:

Audiologist
Low Vision Specialist
Ophthalmologist
Otolaryngologist (ENT)
Pediatrician
Clinical Psychologist
Social Worker
Hearing Impaired Specialist
Occupational Therapist
Physical Therapist
Speech & Language Clinician
Teacher of the Visually Impaired
Parent Coordinator

The student will be seen by team members specified on the application. Please check with the parents when filling this section out.

During the evaluations, both the parents and school personnel are invited to watch, participate and ask questions. A written report will be sent to the parents and school personnel approximately one months following the clinic.

There is no cost to either the parents or the schools for attending the clinic. The parents will be reimbursed .22 cents a mile plus a per diem of no more than $75.00 for those who live out of town. This should cover their motel and meals. The monies will be sent to the parents approximately two weeks following the clinic.

Should your school have any students you would like to attend, please fill out the following forms and return them as soon as possible. There are limited spaces available. (Any child that is multi-handicapped is welcome to participate in the clinic; the child does not have to be "deaf" or "blind").

In order for the child to participate, the following information must be sent in a packet along with the referral:

1. The enclosed application form.

2. Daily schedule the student follows at school.

3. The student's complete IEP. If no IEP is available, please send the goals and objectives for the student.

4. The enclosed interview form needs to be filled out and signed by the student's teacher.

5. A 10-15 minute video tape reflecting concerns listed on the application and interview forms.

6. **MEDICAL INFORMATION** If you can not do this, have the family send it. The child will not be seen by the doctors without this information.

All of the above information needs to be submitted no later than **September 8, 1995.**

The parents will also be contacted and requested to fill out an interview form for additional information to share with the teams.

If you have any questions please feel free to call 307-324-5333. Thank you for your time and interest in this matter.

Sincerely,

Joanne B. Whitson
Visual Handicap Consultant

Enclosures

file \dbc\parent.acc

September 18, 1995

1~
2~
3~

Dear 4~;

This is to inform you that your child, 5~, has been accepted to attend the Deaf/Blind/Multi-Handicap Clinic. The clinic will be held on Friday, October 6th and Saturday, October 7th. Everyone is requested to meet at the Child Development Center in Lander at 11:00 am. At that time, you will be introduced to the Parent Coordinator and the clinic's procedures will be explained in more detail. After which, you can check into your motel and have some lunch. The directions for the clinic are enclosed.

The clinic will reconvene promptly at 12:35 pm. During the clinic your child will be seen by the team members that were chosen on the application. The schedule for your child is enclosed. If you have any questions regarding the schedule, please call.

During the clinic, you will be encouraged to ask as many questions of the team members that you wish. Friday, the clinic will run until approximately 5:30 pm. Following the clinic, there will be a Round Table discussion with all of the team members present. This is an opportunity for you to ask any additional questions that you may have and to give input for future clinics.

The clinic will reconvene at 8:00 am on Saturday. Again, you are encouraged to ask any questions that you may have of the team members while your child is being seen. There will be some time allotted for you to talk again with the educational staff regarding any questions that you have.

Please fill out the enclosed parent interview sheet and sign the Release and send these back in the provided envelope. The information is needed for the clinic.

If for any reason you are unable to attend, please notify the office so that other children can come.

Look forward to meeting you Friday.

Sincerely,

Joanne B. Whitson
Visual Handicap Consultant

JBW/pap

Enclosures: Directions
Parent Interview
Release
Envelope
Schedule

DEAF/BLIND/MULTI-IMPAIRED
WEIAT
APPLICATION

Date of clinic: _____

(Pre)School: _____

Address of (pre)school: _____
& CONTACT PERSON: _____
_____
_____

Phone no. for (pre)school: _____

Name of child: _____

Social Security No.: _____

Birthday of child: _____

Grade in school (if applicable): _____

Parent's name: _____

Mailing address: _____
_____
_____

Home phone no.: _____

Brief description of reason for referral (including diagnosis if known) _____
_____
_____
_____
_____
_____
_____
_____

Does the child hear? Yes____ No____ If no, list briefly what concerns you have on the child's hearing _____
_____
_____

Does the child see? Yes___ No ___ If no, list briefly what concerns you have the child's sight _____
_____
_____

List any specific questions or concerns you would like to have addressed by the team: _____

_____

_____

_____

_____

_____

Please check the team members that you would like to have the child see. The WEIAT will conduct their screening in an arena setting.

DOCTORS:

Ophthalmologist _____
Pediatrician _____
Psychologist _____
Audiologist _____
Otolaryngologist (ENT) _____
Developmental Optometrist\Low Vision Specialist _____

WEIAT MEMBERS:

Physical Therapist _____
Hearing Impaired Specialist _____
Occupational Therapist _____
Vision Teacher _____
Speech & Language Clinician _____

The following information must be returned by **April 20, 1995.**

APPLICATION CHECKLIST: (Applications cannot be considered without the medical background information on the child)

_____ APPLICATION

_____ INTERVIEW FORM

_____ IEP GOAL/OBJECTIVES

_____ MEDICAL INFORMATION

_____ VIDEO for the clinic review

Joanne B. Whitson
Services for the Visual Handicap
Carbon Building Room 325
Rawlins, Wyoming 82301
(307) 324-5333

Thank you for your time.

SCHOOL INTERVIEW FORM

Name of Child_____

1. List the strengths of the student:

2. Is the student orientated to the environment and those in it?
   Yes___ No___ Explain:

3. Generally, what strategies have you already implemented that work for you:

4. Does the student function independently? Yes___ No___
   In what areas:

   What type of assistance:

   How does the student move from place to place:

5. What independent choices does the student make:

6. List any daily living skills/tasks you are concerned with:

7. What behavioral concerns do you have:

8. List any health or safety concerns:

9. How does the student make his/her wants/emotions and needs known:

10. Does the student make use of augmentative devices? Yes___ No___ If so, what:

11. Does the student interact with peers, with adults:

Any additional comments:

_____

Teacher's signature

PARENT'S INTERVIEW FORM

Name of Child_____

1. What are your child's strengths:

2. What concerns do you have with daily living tasks/skills:
   ie. toileting, dressing, hygiene, feeding, chores

3. What behavioral concerns do you have:

4. How do you communicate with your child:

5. How does your child communicate his/her wants, needs, emotions to you:

6. Do you have other children? Yes___ No___ What ages:
   Does your child interact with them:

7. What is your child's favorite toy or activity:

8. What is your favorite family activity?
   How does your child participate:

9. What do you see your child doing in 6 months:

   What do you see your child doing in 1 year:

10. What is your support network:

If you do not have one, would you be interested in participating in one?

Name of Parent_____

WYOMING DEPARTMENT OF EDUCATION
DEAF/BLIND/MULTI-HANDICAPPED
CLINIC
RELEASE

I, hereby give my permission to have my child photographed at the Deaf\Blind\Multi-Handicapped Clinic. The photograph will be used for identification on final reports and for Poster sessions regarding the clinic.

_____ _____

written name of parent or guardian

date

_____

signature of parent or guardian

JUDY CATCHPOLE
Superintendent of Public Instruction

Joanne Whitson
Services for the Visually Handicapped
Carbon Building, Room 325
Rawlins WY 82301

Wyoming
Department of Education

307-324-5333

WYOMING DEPARTMENT OF EDUCATION
DEAF/BLIND/MULTI-HANDICAPPED CLINIC
PARENTAL RELEASE

On Friday, October 6th and Saturday, October 7th, 1995, the Deaf/Blind/Multi-Handicapped Diagnostic Clinic will be evaluating your child. This team is composed of:

Team Member	Specialty
Dr. Mikel Weideman	Optometrist
Dr. Robert Kelso	Psychologist
Dr. Douglas Laws	Audiologist
Dr. Robert Nagy	ENT
Ms. Ellen Fenner-Stahlecker	Hearing Impaired Specialist
Ms. Sheri Montgomery	Occupational Therapist
Ms. Evie Wecker	Physical Therapist
Ms. Anne Marie Meyer	Speech & Language Clinician
Ms. Mary Elizabeth Rich-Williams	Vision Teacher

The purpose of this evaluation is to provide an integrated assessment that reflects the school's and family's concerns. Additional assessments and recommendations may be made by medical specialists as well. Your permission to have your child evaluated is requested.

_____ _____
Signature of Parent Witness

_____ _____
Date Date

EVALUATION
FOR THE
DEAF/BLIND/MULTI-HANDICAPPED CLINIC

1. Date of the clinic you attended: _____

2. Name of child attending: _____

3. Your name and relationship to child: _____
_____
_____

4. Did you have any problems with the structure of the clinic?
Yes_____ No_____
Comments:_____
_____
_____

5. Is the written report helpful to you?
Yes_____ No_____
Comments:_____
_____
_____

6. Did the Final Report answer any of the questions you had prior to the clinic? Yes_____ No_____
Comments:_____
_____
_____

7. Would you attend another clinic? Yes_____ No_____

8. Do you feel the clinic offered any substantial help to you in working with the child? Yes_____ No_____
Comments:_____
_____
_____

9. If additional support for implementing any recommendations made at the clinic were available, would you be interested in this? Yes_____ No_____
Comments:_____
_____
_____

10. Please list any suggestions you may have for the next clinic (if you need more room, please use the back):
_____
_____
_____
_____
_____

WYOMING DEPARTMENT OF EDUCATION
DEAF/BLIND MULTI-HANDICAPPED CLINIC

STUDENT: ,
DATE OF BIRTH: 04-06-94
DATE OF ASSESSMENT: 10-5,6-95
PARENTS/GUARDIAN:
ADDRESS:
CLASSROOM PLACEMENT: Pinedale Learning Center

TEAM MEMBERS: WEIAT I

Ellen Fenner-Stahlecker, Hearing Impaired Specialist
Anne Meyer, Speech/Language Pathologist
Sheri Montgomery, Occupational Therapist
Evie Wecker, Physical Therapist
Mary Rich Williams, Vision Teacher

The Wyoming Educational Intervention Assessment Team (WEIAT) is a trans-disciplinary educational team that provides an integrated assessment that reflects the schools and families concerns. Team members commit to work across disciplinary boundaries and may provide recommendations in the following areas: Hearing, Vision, Communication, Motor, Self-Help Skills, Cognition and Behavior. The assessment process involves reviewing the student's records, viewing a video tape prepared by the school, interviewing the family and educational staff, and interacting with the student in a non-traditional observational setting.

Additional assessments and recommendations were made by the following medical specialists: ENT, Audiologist, Optometrist, and Psychologist.

PURPOSE OF ASSESSMENT

The purpose of the assessment on is to give instructional recommendations to both the family and the school district in the following areas: developmental motor skills, positioning, reaching, switch use and expressive language.

STUDENT:
DATE OF BIRTH: 04-06-94

ASSESSMENT ACTIVITIES

The trans-disciplinary team observed and interacted with for approximately one hour in the following activities: attempted visual tracking of toys providing visual and/or auditory stimulation, muscle facilitation, positioning on mat, wedges, simulated inclines, switch activities with a Big Mac, and rolling on a wedge and in a blanket.

ASSESSMENT OBSERVATIONS

presents with low muscle tone and his developmental skills vary with his seizure status. He demonstrates increased left sided weakness, post seizure. Anterior/ventral head control is poor and uses a "mass extension" pattern to lift his head. He is unable to correct or hold his head position, when displaced laterally or posteriorly. Anterior head control could be facilitated in an incline position with traction and sternal pressure and stabilization.

was unable to roll prone to supine or supine to prone. When placed on an incline wedge and on a blanket, appeared to become more active and challenged with external facilitation to roll. When facilitated to roll, using these methods, he was able to initiate the beginning of the rolling pattern. When blanket rolling stopped, demonstrated more physical activity by kicking his feet, which seemed to be an indication that he wanted more. After the activity was repeated a second time, rolled to his side which seemed to indicate that he was done with the activity.

was positioned in prone on forearms and in quadruped. He tolerated these positions well and the weight bearing seemed to be of benefit. He required stabilization of his arms and a resting surface for his head when in this position.

was observed contacting objects close to his body, but he failed to reach away from his body. He responded to tactile cues by opening his hands. Tactile objects or toys appeared to be enjoyable. When aided to reach away from his body, 's hands were observed to be held in fisted position with tightness noted in thumb area. This hand position will negatively impact object interaction.

was first observed in his Kid Kart. Mom reported that generally she was pleased with the stroller, but the attachments loosened on their own.

STUDENT:
DATE OF BIRTH: 04-06-94

Visual tracking and attending seemed to be successful when initiated from the right side moving horizontally. 's gaze did not cross midline, but he did re-fix on the other side.

When presented with a toy that could make high-pitched squeaky noises, seemed to become more alert and would at times coo. would vocally "play" with his cooing, taking turns vocalizing with the therapists for up to 4 or 5 repetitions.

His mother taped her voice on the Big Mac. seemed to enjoy the visual/auditory feedback but did not readily initiate any arm movement from his body to turn the switch on.

STUDENT:
DATE OF BIRTH: 04-06-94

RECOMMENDATIONS OF ASSESSMENT TEAM

After observation and interaction with the child, review of the records, and interviews with the family and educational staff, the Assessment Team developed a prioritized list of the child's needs. These recommendations have been written by the team infusing skills from all disciplines into activities that would be functional or meaningful for the child considering the child's age, present daily schedule and goals of the family and educators:

1. Continue with the developmental sequence of motor action, using facilitated techniques such as the blanket and wedge. Facilitate anterior head control as described in the enclosed home program. Incorporate alternative positioning to include quadruped and prone on forearms, see attached drawings.

2. Continue to explore use of switches to produce multi-sensory stimulation that may include auditory, vibratory, and air flow feedback or response. Placement of switch and type of switch may be modified closer to body so he would contact it when his hands come up to midline on chest. Providing different tactile surfaces on the switch plate, may provide more information.
   An alternate way of engaging 's communicative growth could be viewed through the Van Dyke approach (see attached literature).

3. The therapist should continue to use "baby massage" techniques and range of motion, deep pressure to the hand. Thumb straps may be considered (see attachment information from Benik).

4. See attached suggestions from Physical Therapist for detailed report.

SUGGESTED RESOURCES FOR FAMILY AND EDUCATORS

See attached report.

STUDENT:
DATE OF BIRTH: 04-06-94

MEDICAL ASSESSMENTS

Dr. Robert Nagy
Otolaryngologist (ENT)

is an 18-month old boy who has had a history of intermittent seizures since three days of age. He is developmentally delayed, his mother feels he responds rather consistently to sound. He may favor his right ear. He has not had a significant history of ear infections. He has just recently had a cold which is not better.

On examination, both tympanic membranes were translucent. Both were mildly congested but mobile to pneumatic otoscopy. There was no evidence of middle ear effusion observed. Wax was cleaned from both external canals. Examination of his nose was unremarkable. He may have a bifid uvula.

has a relatively normal otologic exam. There remains questions regarding his hearing and as a result I discussed with his mother the possibility of having an auditory brain stem response test done. That might help define where he is regarding hearing levels.

Doug Laws, Ph.D.
Audiologist

Dr. Nagy reports normal structure upon physical exam today. Mother reports no concern that has a significant hearing loss. His therapist indicates that he always seems to turn to the right upon auditorial stimulation. This is posed - as to whether or not he is doing this because of muscular disorder or hearing disorder.

Recommendation: ABR and OAE testing when convenient.

Robert Kelso, Ph.D.
Clinical Psychologist

See attached report.

Mikel R. Weideman, O.D.
Doctor of Optometry

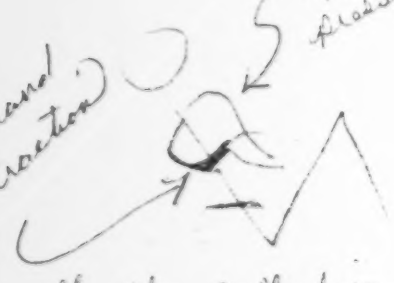
See attached report.

Physical Therapy Suggestions

for

[redacted]

Because [redacted] demonstrated very little anterior / ventral head control (He used mainly extension to control his head.) the following techniques may be helpful in facilitating control.


This hand applies external pressure and stabilizes so that the ant. neck muscles can work -
This hand applies traction
Gently pull him up - he will begin to use neck musculature

Have [redacted] inclined against your legs - not too much to begin with. The more he is reclined, the more difficult this activity will be. So begin with him slightly reclined. As he improves - you may recline him more.

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[redacted] T - pg. 2

Rolling - facilitated

Wedge

Try:
facilitation at hips, shoulders

The firm surface facilitate more activity — The incline makes it easier to roll down - more difficult to roll up — more work.

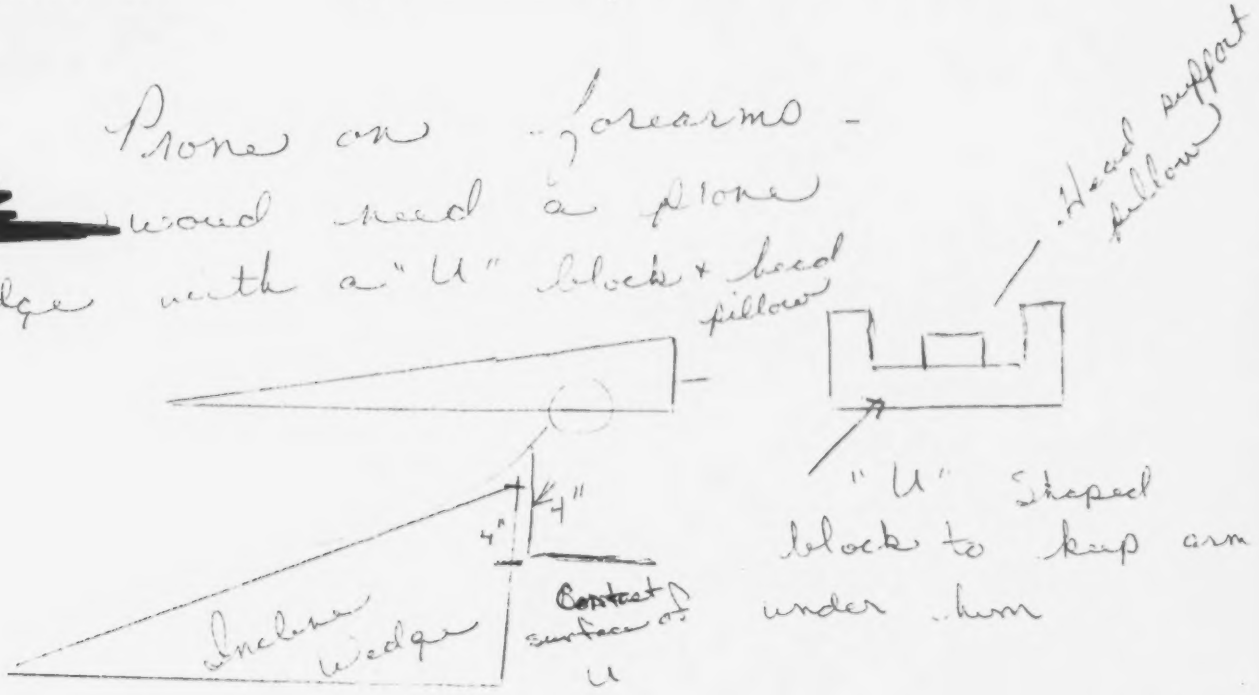
In blanket

- 2 people hold the corners - as they manipulate the blanket [redacted] will roll - he will need to clear his face yet will most probably feel secure.

Alternative positioning:

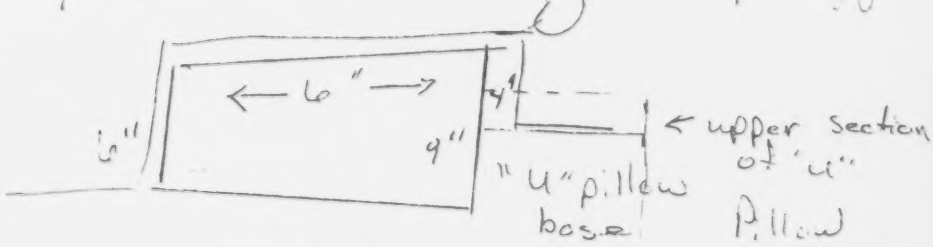
Prone on forearms -

[redacted] would need a prone wedge with a "U" block + head pillow



Note: The "U" pillow is recommended to keep [redacted]'s arms aligned under his shoulders for good weight bearing

Quadruped - for quad she could use the same "U" support and head support - would just need a Drop Off wedge



Source

Consumer Care - 810 N. Water St. - P.O. Box 684
Sheboygan, WI - 53082-0684

Telephone:

414-459-8353

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[redacted] T - pg. 4.

These forms can be cut out of foam and covered - any product that meets the properties required would work

Call if you have questions

Lisa Wacker, P.T.
307-856-6637

Special Products
for
Special Kids

BENIK CORPORATION

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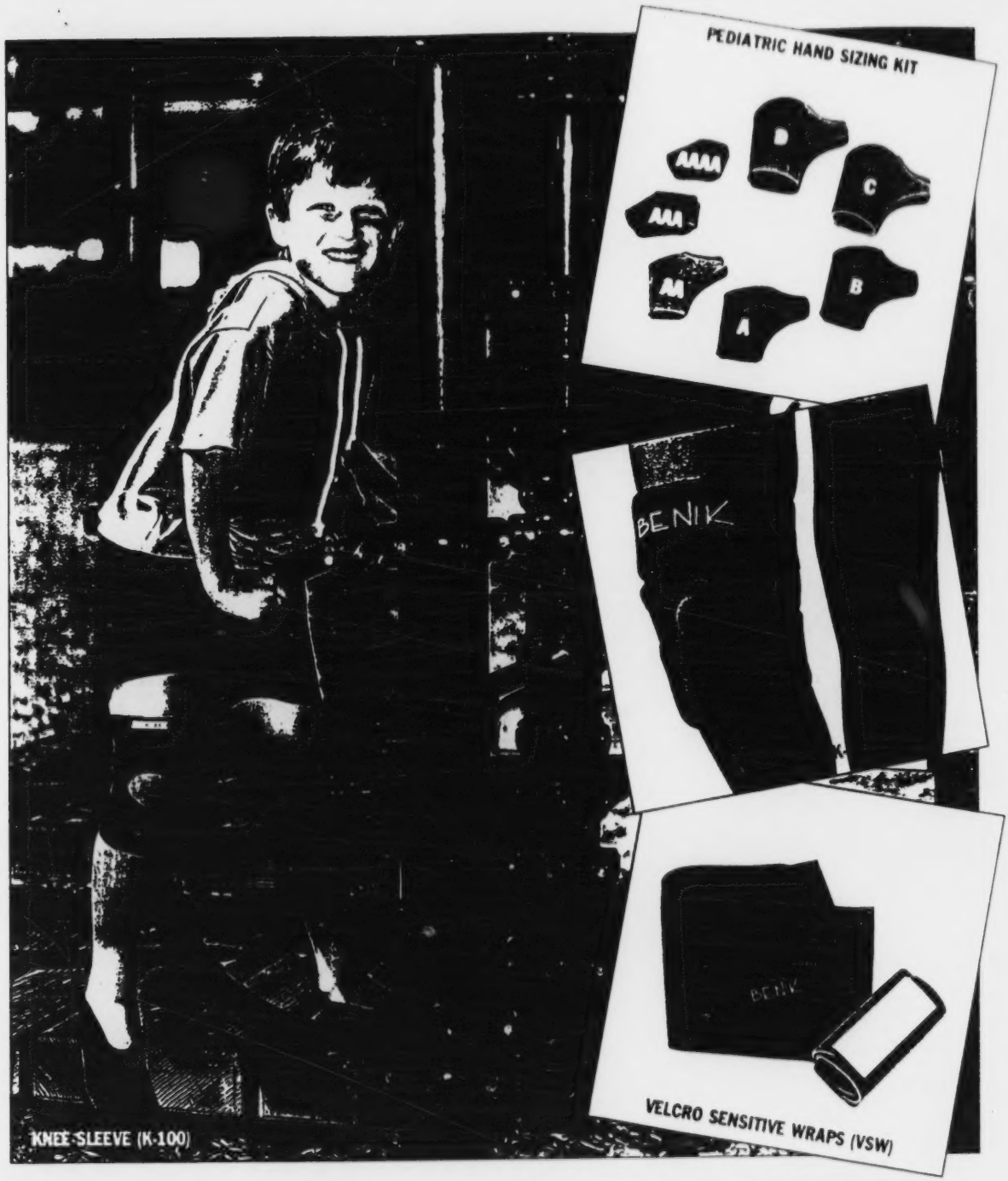

KNEE SLEEVE (K-100)
This comfortable, pull-on knee sleeve is constructed of 3mm neoprene and is terry lined for comfort. Patella cut out is standard. Closed patella optional. Buttressing is available upon request. Available in all colors. For custom fit specify sizing information G, H, I, & J from Sizing Chart.

PEDIATRIC HAND SIZING KIT
Kit comes with seven graduated, die-cut sizes that allow you to physically try on the splint to determine correct size. The Pediatric Hand Sizing Kit is the vital tool used to ensure correct sizes for ALL of Benik's pediatric hand splints.

KNEE WRAP (K-107)
The wrap-around design adheres to itself via velcro sensitive neoprene making it easy to put on and take off. This design also accommodates child's growth. Velcro sensitive straps at top and bottom of knee wrap allow for adjustability and compression. Constructed of 3mm neoprene and terry lined for comfort. Available in velcro sensitive neoprene colors (See Color Chart.) Specify custom sizing information G, H,

VELCRO SENSITIVE WRAPS (VSW)
These universal wraps are 3mm neoprene and are terry lined for comfort. Velcro sensitive fabric is laminated to the outside making just about any fit possible. Terrific for problem solving and test rehabilitation techniques. Wraps can be made in any size and can be easily trimmed to a dimensional shape. Available in velcro sensitive neoprene colors. (See Color Chart.) Specify desired size and shape when ordering.

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DYNAMIC TRUNK ORTHOSIS (V100)
This two-piece body vest is constructed of 3mm neoprene and is terry lined for comfort. Vest halves adhere to each other via velcro sensitive neoprene on vest back. Velcro straps at shoulders, sides and crotch enhance ease of putting on and taking off the vest. The vest's adjustability helps accommodate clothing restrictions, child's growth and comfort. **Although NOT to be used as a life preserver, the vest will provide warmth and added buoyancy during water** velcro sensitive neoprene colors. (See Color Chart.) Four stock sizes available or specify custom sizing information A, B, C, & D from Sizing Chart.

NEOPRENE GLOVE WITH THUMB (BD-88)
Constructed of 3mm neoprene and terry lined for comfort, all seams are first glued, then heat-taped for strength and durability. Seams can be easily trimmed for modification without jeopardizing seam integrity. A wide variety of custom modifications are available. (See Hand Splint Modifications.)

NEOPRENE GLOVE WITH THUMB (MODIFIED)
This popular, modified version of the BD-88 has a 2" proximal extension, a partial velcro closure at the back of hand, and a palmer pocket for optional stay. Constructed of 3mm neoprene and terry lined for comfort. Available in all colors. Specify right or left hand and stock size from Hand Sizing Kit. (See Hand Splint Modifications.)

NEOPRENE GLOVE WITH THUMB & INDEX FINGER (RG-87)
Constructed of 3mm neoprene terry lined for comfort, and featuring the same quality construction as the BD-88, the RG-87 provides additional support by including the index finger. Available in all colors. Specify right or left hand and stock size from Hand Sizing Kit. (Not available in size AAAA.)

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WRIST SUPPORT (W-302)
Constructed of 3mm neoprene, this terry lined splint features hook and loop fasteners at thumb, wrist and forearm that make putting on and taking off the splint a breeze. Dorsum and palmer pockets hold malleable aluminum stays. (Some prefer to use their own splinting material - please specify.) Approximate length is 5" to 7" depending on size. Available in all colors. Specify right or left hand, wrist circumference, and stock size from Hand Sizing Kit. (Not available in size AAAA.)

WRIST SUPPORT WITH THUMB (W-303)
Constructed with the same features as the W-302, the W-303 provides additional support for the thumb. Support is 3mm neoprene and is terry lined for comfort. Available in all colors. Specify right or left hand and stock size from Hand Sizing Kit. (Not available in size AAAA.)

WRIST WRAP (W-201)
Constructed of 3mm neoprene and terry lined for comfort, this splint is similar to the BD-88 but features a wrap-around closure for additional wrist support. Available in all colors. Specify right or left hand and stock size from Hand Sizing Kit.

NEOPRENE SHORTS (NSB)
These slip-on shorts are constructed of 3mm neoprene and are terry lined for comfort. Four stock sizes are available from infant to ages 7 and up. Refer to stock sizing chart for measurements. Available in all colors. For custom sizing, specify sizing information B, C, E, F, & I from Sizing Chart.

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PEDIATRIC STOCK SIZES

For stock items, confirm measurements, specify color, and order by stock item number noted below.
If no specific color is requested, **we will ship Royal Blue.** 3.0mm neoprene is standard.

STOCK TRUNK ORTHOSIS SIZES

V-101 (Infant)
Fits torso circumference to 20" (A, B, C)
Length under arm to hip is 7" (D)

V-102 (Two Years)
Fits torso circumference to 25" (A, B, C)
Length under arm to hip is 8" (D)

V-103 (Four Years)
Fits torso circumference to 27" (A, B, C)
Length under arm to hip is 10" (D)

V-104 (Seven Years)
Fits torso circumference to 27" (A, B, C)
Length under arm to hip is 11½" (D)

STOCK SHORTS SIZES

NSB-Y1 fits waist circumference 16" to 17" (B)

NSB-Y2 fits waist circumference 18" to 20" (B)

NSB-Y4 fits waist circumference 21" to 23" (B)

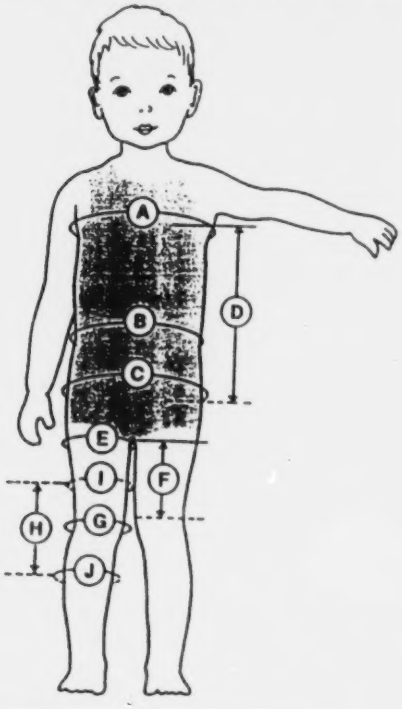
NSB-Y7 fits waist circumference 24" to 27" (B)

STOCK HAND SPLINT SIZES

- Specify size AAAA, AAA, AA, A, B, C, or D from Pediatric Hand Sizing Kit
- Refer to photograph/description for item number.
- Indicate right or left hand
- Specify color from Color Chart

SIZING CHART FOR CUSTOM FITTING

For custom fitting, take measurements indicated below for specific item. Note those exact measurements, specify color and item number from photograph/description when ordering. If no specific color is requested, **we will ship Royal Blue.**



MEASURING FOR TRUNK ORTHOSIS

A — Chest circumference
B — Waist Circumference
C — Hip Circumference
D — 1" under arm to hip or desired length

MEASURING FOR SHORTS

B — Waist Circumference
C — Hip Circumference
E — Thigh circumference
F — Inseam, crotch to bottom of shorts or desired length
I — Distal circumference

MEASURING FOR KNEE SLEEVE OR KNEE WRAP

G — Circumference at mid-patella
H — Note desired overall length
I — Proximal circumference
J — Distal circumference
(Patella Cutout Standard, Closed Patella Optional)

HAND SPLINT MODIFICATIONS

ADDED PROXIMAL LENGTH
1) State desired length to be added to splint.
2) Circumference of arm at that point.

POCKETS
1) Desired location, i.e. palm, dorsal.

STAY FOR POCKET
1) Malleable aluminum [redacted].

VELCRO CLOSURE
1) Full or partial length.
2) Double-locking sandwich closure also available.

☑ Sizes AAA and AAAA come stock with full velcro closures

☑ Velcro closures highly recommended for extended splints

VENTING

All neoprene material can be vented upon request at a slight additional charge. Vented neoprene is particularly useful for products worn in warm weather climates or for products worn on certain areas of the body where excessive body heat may be generated.

NEOPRENE MATERIAL ONLY

Benik Corporation enjoys the distinction of being a company that specializes in team work. Although we do not claim to have any medical training, as manufacturers we consistently work jointly in team association with medical professionals. As part of this team effort, we offer therapists the opportunity to purchase our neoprene materials and tapes so that they may experiment in the design of products they believe may be beneficial to the patient. Our expertise in product development and manufacturing provides the source for continued production and distribution. This cooperative

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Let them pick their favorite

COL R

Benik offers a choice of 18 different colors to choose from! And by making a support colorful, we've made things a bit brighter for those who might otherwise be hesitant to wear a support.

An asterisk (*) indicates color is also available in velcro-sensitive neoprene.

Please note that the accuracy of colors cannot be matched perfectly in printing. Colors may vary.

ORDERING INFORMATION

TO ORDER BY PHONE: Call Toll Free 1-800-442-8910
7:30 a.m. to 4:30 p.m. Monday thru Thursday
7:30 a.m. to Noon Friday (Pacific Time)
TO ORDER BY FAX: Call 1-206-692-5600 (24 Hour)

TO ORDER BY MAIL:
Write to BENIK CORPORATION
9465 Provost Road NW, #204
Silverdale, Washington 98383

RETURN/REPAIR POLICY

FOR CREDIT: All items returned ***MUST*** have prior authorization and are subject to a 25% restocking fee.
Sorry, custom items are non-returnable.

FOR REPAIR or MODIFICATION: Call first. All items returned for repair or modification ***MUST*** be laundered.
Please send instructions for repair or modification along with item.

Products are shipped U.P.S. All Prices FOB Silverdale. TERMS: Net 30 days. Shipments are COD until credit is established.

DO NOT WRITE IN THIS SPACE • FOR THERAPIST'S USE ONLY

ORDERED BY:

THERAPIST:_____

PHONE:_____ FAX:_____

MEDICAL AFFILIATION:_____

PURCHASE ORDER NUMBER:_____

BENIK CORPORATION

WRIST SUPPORTS

1-800-442-8910 • FAX 1-~~800~~(310)692-5600

PATIENT'S NAME:_____ DATE:_____

BENIK ITEM NUMBER:_____

SIZE:_____

HAND: ❑ Right ❑ Left ❑ Bilateral

DESCRIBE FIT:	OK	TIGHT	LOOSE	ADJUST
Thumb	❑	❑	❑	❑ _____
MCP	❑	❑	❑	❑ _____
Wrist	❑	❑	❑	❑ _____

COLOR:_____

MATERIAL TYPE: ❑ Standard 3mm Terry ❑ Ventilated 3mm Terry (Limited Colors)

CLOSURE: ❑ Pull On ❑ Partial Velcro ❑ Full Velcro (Include MCP Circumference)_____

OPTIONS:

POCKET: ❑ Palmer ❑ Dorsal

STAYS: ❑ None ❑ Aluminum

ADDED PROXIMAL LENGTH: ❑ No

❑ Yes* *If YES, please note the following:

Velcro Closure Now Required.

Length to be added to sizing glove_____

Wrist Circumference_____

Forearm Circumference at end of splint_____

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DEVELOPING PRELANGUAGE COMMUNICATION IN THE SEVERELY HANDICAPPED: AN INTERPRETATION OF THE VAN DIJK METHOD

Robert D. Stillman, Ph.D. and Christy W. Battle, M.S.

Prelanguage communication and the onset of language have come to be viewed as complex outcomes of the interaction of the child's cognitive development and social experiences (Bates, 1979; Piaget, 1951; Schaffer, 1979; Werner and Kaplan, 1963). In the normally developing child, communicative ability develops as the child systematically acquires an understanding of the object and social environment and the means to control and affect it, achieves separation from the environment so that aspects of the environment can be referred to and represented both mentally and through actions, and acquires knowledge of symbols for use internally for thought and externally to communicate thoughts to others. At issue, however, is whether knowledge of the cognitive and social factors underlying prelanguage communication in the normally developing child can be successfully incorporated within intervention approaches designed for the severely handicapped.

THEORETICAL BACKGROUND

One of the most comprehensive attempts to incorporate developmental principles into an intervention program was made by Van Dijk (1965, 1967). In formulating his approach, he drew extensively from Werner and Kaplan's (1963) studies of the development of the representational and symbolic abilities underlying language. Although Van Dijk's approach has been identified almost exclusively with programs for the deaf-blind, its focus on the cognitive and social precursors to language suggests applicability to broader populations of severely handicapped children.

Van Dijk designed his approach to address the problems of "inwardly directed" children, children whose object and social behaviors appear focused on self and who commonly exhibit "autistic-like" characteristics, including perseverative actions with objects, self-stimulation, and self-abuse. Close examination of these children's be-

Program in Communication Disorders, University of Texas at Dallas, Callier Center for Communication Disorders, Dallas, Texas.

Preparation of this paper was supported by the U.S. Department of Education contract =G008302981. Opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement by the Department should be inferred.

Reprint requests: Dr. Stillman, Callier Center for Communication Disorders, 1966 Inwood Road, Dallas TX 75235.

haviors suggests that the inward-directedness stems from a predominant focus on achieving physical stimulation and the satisfaction of physical needs. For many, the preoccupation with self-stimulation, obtaining food, or otherwise satisfying physical needs is obvious. However, even children whose behaviors appear relatively sophisticated and more socially acceptable may demonstrate the same inwardly directed focus. For example, social behaviors may appear rigid and perseverative, tend to be applied indiscriminately to others, and typically have distinct tactile and/or visual stimulation features. These factors suggest that the primary purpose of the behaviors is to obtain physical stimulation or need satisfaction resulting from reinforcement of the behaviors, rather than to display affection or indicate recognition. Spontaneously occurring communicative behaviors, such as hand-taking or vocalizing, may also be seen to serve primarily as a means to obtain food or initiate activities resulting in physical stimulation.

Although acceptable behaviors may be established and unacceptable ones eliminated through the application of reinforcement techniques, the essential inward-directedness of the behaviors resists change. Many of these children, for example, rapidly learn and generalize signals, signs, or words for "jump," "eat," and for favored objects or activities providing physical stimulation. However, spontaneous, appropriate communications about objects that do not supply physical gratification, such as a shirt or chair, rarely occur outside the training context.

The inwardly directed behaviors of these children may appear comparable to developmentally appropriate infant behaviors. For example, "light-gazing" or repetitive actions on objects are superficially similar to primary or secondary circular reactions. The crucial difference, however, is that the severely handicapped child's behavior lacks the cognitive, exploratory nature typical of the normally developing infant.

Flavell (1977) used the term "cognitive motivation" to describe the infant's drive to interact with and learn about the environment purely for the sake of knowing, even when there is no practical need to do so and no externally controlled reinforcement, either social or material, for engaging in the behaviors. According to Flavell, behaviors driven by cognitive motivation support intrinsic cognitive goals and are integral to the process of cognitive development. Flavell distinguished behaviors that support cognitive goals from behaviors that support noncognitive goals. The latter behaviors are carried out for the purpose of satisfying needs, either directly or as a result of externally controlled material or social reinforcement, and are viewed as extrinsic to the process by which cognitive abilities develop. Existing cognitive abilities are frequently used for noncognitive purposes, for example, problem-solving to obtain food or using words in order to receive praise. However, the behaviors are noncognitive when they are focused on obtaining need satisfaction or extrinsic reinforcement rather than on intrinsically furthering the child's cognitive development. Normally developing children demonstrate behaviors in support of both cognitive and noncognitive goals, but the behaviors of severely handicapped children appear dominated by those supporting noncognitive goals.

According to Werner and Kaplan (1963), the fundamental step in the development of representational and symbolic abilities underlying language is the child's understanding of the separation of self from the environment. The initial stages of this understanding are demonstrated through a functional change in the primary focus of the child's behaviors from need satisfaction to the acquisition of knowledge about people and objects in the environment. Within the Werner and Kaplan framework, the skewing of the severely handicapped child's behaviors toward noncognitive, need satisfaction goals is a serious impediment to continued development. A key program-

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ming goal, therefore, must be to alter the functions of the child's behaviors from need satisfaction to the acquisition of knowledge. This means that an intervention approach focused exclusively on modifying behavior through extrinsic reinforcement is insufficient because the outcome will be to expand (or contract) the child's behavior repertoire without changing the fundamental functions of the behaviors. Training the child to act (or not act) in order to obtain extrinsic material or social reinforcement promotes the child's tendency to do what is necessary to satisfy needs and simply refines the child's repertoire of behaviors that support noncognitive goals.

Van Dijk's approach focuses on the development, in the context of social interactions, of those cognitive abilities that, according to Werner and Kaplan, lead to representational and symbolic functioning. Within this framework, communication is viewed not as an independent skill, but as an aspect of cognition and a reflection of cognitive development revealed during social interactions. Although one aspect of communication is its use to achieve practical, need satisfaction goals, our focus will be on its function as an instrument to further the child's cognitive development and as a natural consequence of the child's application of cognitive abilities within the social realm.

Developmental Theory of Werner and Kaplan

Central to Van Dijk's approach are three interrelated areas of cognitive development considered by Werner and Kaplan to underlie representational and symbolic abilities. These areas are: formation of objects of contemplation, denotative reference, and motor-gestural depiction. Central, also, is Werner and Kaplan's conception that development within each area can be described as a process of progressive distancing between self and the environment and between the environment and how it is represented in thought and actions. A brief summary of some aspects of Werner and Kaplan's developmental theory may aid in understanding the interventions proposed by Van Dijk.

Objects of Contemplation

The formation of objects of contemplation describes the change in the status of objects from elicitors of sensorimotor actions, known through sensorimotor schemas, to external entities that can be studied (contemplated) and known for their distinctive dynamic, structural, and functional properties, independent of the child's actions or their effects on the child. In the formation of objects of contemplation, distancing can be viewed as spatial, in that the child acknowledges an environment physically separate from self, and temporal because action can be delayed and subordinated to observation. Knowing is no longer bound to action.

Denotative Reference

Because objects of contemplation are external and possess a reality independent of action, they are objects to which the child may refer. The development of denotative reference is the process by which the child acquires means to refer to aspects of the environment. Distancing with regard to denotative reference describes the child's separation of referential actions from their sensorimotor precursors (turning toward, reaching to touch) into nonrepresentational reference, acts that function uniquely to denote aspects of the environment without representing them within the action (pointing, vocalizing at).

Motor-Gestural Depiction

The development of motor-gestural depiction describes the process by which the child acquires the means to represent

his conception of aspects of the environment in motoric form. Motor-gestural depiction has its origin in the child's sensorimotor actions. In the course of development, the child's initially undifferentiated, global actions become progressively specialized for particular function, and an increasingly complex set of motor behaviors develops for acting on the environment and interacting with others. Within the developing sensorimotor actions, the child incorporates the dynamic qualities manifested by things in the environment. Observed qualities of objects, especially their movements, but also their form, texture, and size, become embedded in the child's sensorimotor actions. For example, objects that move side-to-side may elicit sensorimotor actions that incorporate side-to-side batting motions, whereas rounded objects may elicit sensorimotor grasping actions characterized by a rounded hand shape prior to grasping. As the child separates self from the environment, the child begins to respond to the dynamic qualities of objects with his own actions, but without directly acting on the objects. Such actions by the child, which parallel and occur simultaneously with movements in the environment, are referred to as "resonant or co-active movements." The child swaying side-to-side as the adult moves in a similar manner is an example of a resonant or co-active movement.

Resonant or co-active movements are elicited by external events and are imitative only in the sense that the child's behavior resonates or occurs co-actively with observed actions. True imitation, according to Werner and Kaplan, is an active effort by the child to depict salient environmental features through purposeful motor acts. Depictive imitation is, therefore, neither a passive process of copying nor an "automatic" response to an external model. Depictive imitation, however, is thought to arise from resonant or co-active movements as the child continues to separate perceived events from his immediate motor reaction to them.

Depictive imitation undergoes dual distancing processes described as denaturalization and decontextualization. In denaturalization, the form of the child's depiction changes from a replica of an external object or event to an abbreviated action or gesture that, for the child, represents that object or event. The emergence of the child's use of language symbols reflects the continued denaturalization process. In decontextualization, the child's use of imitation, representational gestures, and language symbols undergoes temporal distancing, so that it occurs outside its original context and in the absence of a model. The decontextualization of representational acts suggests that the child can internally as well as externally represent aspects of the environment and is freed from contextual limitations in the use of representational actions to communicate.

Not all gestures evolve from the denaturalization of depictive imitations. Some gestures arise from anticipatory motor acts that incorporate dynamic features of the object to be acted upon or the action to be carried out. For example, the acts of pushing away or scooping that the child anticipates carrying out when presented with certain objects may, through the process of denaturalization, evolve into push away or scooping gestures that the child can use to represent the object or his action with it. Through the process of decontextualization, these gestures can also be used to represent objects or actions in their absence.

Positive interactions with primary persons are considered essential to the distancing process in all cognitive areas. Primary persons, through their sensitivity and responsiveness, assist the child to explore and understand the environment and provide the secure base from which the child may enter the object and social world. Communication, defined broadly as "whatever it is that enables the activities of individuals to be coordinated with one another" (Clark, 1978, p. 257), thus is a fundamental aspect as well as an outcome of the developmental process.

VAN DIJK METHODS

Van Dijk's program is an educational methodology based upon Werner and Kaplan's conception of the child's development of representational and symbolic abilities. Activities consonant with the methodology are derived from combining knowledge of the program's theoretical base with an understanding of the particular child with whom the program is to be applied. The program is not a sequence of communication activities to be carried out in isolation, but a methodology that establishes the structure of all of the child's daily activities. The following describes our interpretation of the key components of Van Dijk's program as we have applied it in our work with deaf-blind, severely handicapped children.

Van Dijk's program is composed of four roughly sequential levels: resonance, co-active, imitation, and gestures. Activities within each level are designed to encourage the child's development of distance between self and the environment and between the environment and representations of it. There are no formal boundaries between levels, and programs for individual children frequently include activities drawn from more than one level.

Resonance Activities

Activities at the resonance level encourage the child to shift the primary focus of behaviors from self to the external world of persons and objects. Resonance activities have multiple purposes: to elicit the child's attention to and participation in interactions with others, to develop the child's understanding of how his actions can affect the environment, and to encourage the child's formation of positive relationships with others.

Resonance activities closely parallel in form and content early infant-adult interactions (Newson 1979). In these interactions, the adult engages the child's attention through movements with the child and by creating displays that elicit the child's interest. The child's attention and participation are sustained through the adult's sensitivity to the child's interests and responsiveness to the child's actions. The adult assumes that the child is a communicating person and actively seeks indications in the child's behavior to start, maintain, or terminate particular activities.

The form of adult-child interactions is "conversational." The adult does something, waits for the child's reaction, then responds to the child's action. When the child initiates an action, the same conversational flow is maintained. Through these reciprocal interactions, the child begins to understand that his actions generate reproducible effects, and the adult becomes increasingly attuned to the communicative value of the child's acts. The adult does not teach specific communicative behaviors, but responds to the child's actions as though they were communications. The communicative nature of the interaction arises from the adult's response to the child's actions on the environment.

The normally developing infant appears to have a natural predisposition to attend to environmental events, particularly when they are affected by his actions. The adult, in establishing interactions, simply capitalizes on the infant's interests. The severely handicapped child, however, appears far more isolated from the environment. To engage the child's attention and encourage participation in activities requires considerable sensitivity on the adult's part. The adult must determine what in the external environment may arouse the child's interest and must exhibit a willingness to permit the child to dictate the content, course, and pace of the interactions. Furthermore, the normally developing child has early on developed the secure, trusting relationship with the adult that encourages interactions and joint exploration. Such relationships with the severely handicapped child must be formed in the course of resonance activities.

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Resonance activities begin with attempts by the adult to enter the child's world in a nonthreatening manner. One way is for the adult to join with the child in one of the child's movements or to initiate the familiar movement with the child. Familiar movements are used because the focus of the activities is to encourage the child to utilize motor skills as a means of exploring and responding to the environment, rather than for the child to acquire new motor skills. Also, because movements that are familiar are less intrusive and less threatening, they offer a more viable means to initiate interactions with the child who may otherwise resist interacting.

In most resonance activities, the child and adult maintain close physical contact, since the child is usually most aware of environmental changes affecting his body. Any movement that the child performs may be incorporated within the activities, including rocking, swaying, walking, jumping, crawling, rolling, and clapping. All resonance activities have a stop-start form. The adult moves with the child, pauses, then resumes moving. Indications that the child is participating in the activity occur when the child's movements "resonate" with those of the adult, for example, when the adult and child pause together and resume moving together, or when the child responds to the adult's modification of the movement, such as rocking side-to-side instead of forward and backward, crawling in circles rather than straight ahead, or patting with hands held in different positions.

As the child becomes involved in the interaction and begins to anticipate re-starting a movement following a pause, the child may give some indication during the pause that the adult can interpret as a signal to re-start the activity. The indication may be any action, including re-starting the movement, moving the limbs, pushing the adult, or putting the adult's hands in position for the activity. The particular indication, or whether the same indication is consistently used, is immaterial. What is important is that the child is encouraged through the adult's response to use movements to effect interesting changes in the environment. It is not to teach specific signals for specific activities. However, a rudimentary form of communication evolves out of resonance activities as the child and adult begin to respond to each other's movements as though they were communicative. Within the activity, the movement aspects provide an opportunity for the adult to communicate with the child, and the pauses provide an opportunity for the child to communicate with the adult.

Other resonance activities useful in building anticipation and encouraging the child to act on the environment are not dependent upon joining the child in movements. These activities, including tickling, patting, bouncing, rocking, and stretching games performed on the child's body, may be a particularly useful starting point with the physically handicapped child whose repertoire of movements is severely restricted. The stop-start form, however, is retained in all resonance activities.

Resonance activities may be expanded in several ways. The adult may create displays that are not on the child's body, for example, head shaking, noises, nursery rhyme games, and "I'm gonna get you" routines. These activities are designed to elicit the child's interest in and anticipation of events outside himself. Objects may also be incorporated within resonance activities; for example, rolling a toy truck together, bouncing together on a spring board, or banging sticks together. Objects that create interesting visual or auditory spectacles may also be introduced. Activities with objects encourage the child to become aware of objects and of the interesting effects actions produce on them. Object movements and object displays are also useful activities with physically handicapped children and with children who do not tolerate physical closeness to others.

In the course of any activity, the adult must be alert to indications by the child to terminate the activity. Termination signals, including distress, turning away, moving away, and pushing away, should be responded to by changing the activity or by

temporarily discontinuing the interaction. Responsiveness to termination signals, as well as signals to continue activities, helps the child build an understanding of his ability to influence and to bring under control external events directly affecting him. Forcing the child to participate in an activity against his wishes invites frustration on the part of both the child and the adult and jeopardizes formation of the positive child-adult relationships essential to the child's continuing development.

Co-active Activities

Co-active activities are an extension of resonance activities. They build upon the child's understanding of and participation in shared movements and on his developing interest in the environment and the effects his actions can have upon it. Co-active activities, like resonance activities, have the general goal of increasing distance between self and the environment. In addition, they begin the process of establishing distance between the environment and representations of it.

Co-active movements are the foundation of co-active activities. They are structurally similar to resonance activities in retaining the stop-start form and utilizing the child's existing movement repertoire. The basic distinction between co-active and resonance activities is one of physical distance. In resonance activities, the child and adult are in close physical contact. In co-active movements, the actions of the adult and child are gradually separated physically to require greater attention and to tap the child's ability to associate what is observed with his own actions.

Co-active movements are introduced when the child participates in a variety of resonance activities and begins to show the capacity to move with the adult without extensive physical contact. The following example demonstrates the introduction of physical distance into a resonance activity. In the resonance activity, the child and adult [illegible] pause, and resume walking. The adult and child are in close physical contact, side-by-side, with arms around each other. When the child successfully participates in the activity, the adult may carry out the same movements with the child maintaining only side-to-side contact. Co-active movement occurs when the activity can be carried out with no physical contact. Additional physical distance can then be added to require greater attention to the adult's movements. For the totally blind child, co-active movement is achieved when the child follows the adult's movements using his hands to touch and monitor the adult's actions actively. For individual children, some resonance activities become co-active before others. It may also be necessary within the course of an activity to re-establish physical contact in order to regain the child's attention.

Complexity is introduced to co-active movements by developing movement sequences, for example, crawling-walking-turning. Each movement must be within the child's movement repertoire, and the adult must be certain the child is capable of making the position transitions between movements. Within each component of the sequence, the stop-start form is retained, and the adult must remain attuned to the child's signals to continue the movement. The movement changes, however, provide an additional opportunity for the adult to respond to signals by the child that indicate anticipation of a coming movement change.

In developing the child's understanding of movement sequences, natural environmental cues may be used to indicate a movement change. For example, the child and adult may crawl until they reach the end of a mat, walk across the floor, and turn when they reach the wall. Each movement transition corresponds to a distinct change in the physical environment, and the child is encouraged to attend to both the physical environment and the adult while participating in the sequence.

Once the child anticipates the order of a sequence, the sequence must be varied. If it is not, the child will begin performing the sequence by rote and will cease attend-

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ing to the adult's actions or other relevant environmental cues. Rote learning of motor sequences as an outcome of co-active activities is to be discouraged because it decreases both the child and the adult's opportunities for interaction and communication.

Co-active movement can be expanded in several ways. The adult may incorporate finer movements within the activity, for example, limb and head movements. Objects may be introduced, for example, pushing, pulling, rolling, throwing, or carrying objects from place to place. Obstacles for the adult and child to climb under, over, or walk around may be included in the activity. Co-active movements may also be carried out within the child's routine of daily living activities, including washing, dressing, meals, and clean-up. As in all co-active activities, when the sequence is learned, it should be varied to encourage continued attention and to promote flexibility.

The Anticipation Shelf

When the child uses objects in co-active activities, an "anticipation shelf" is introduced. An anticipation shelf is a location (shelf, cubby, or table) away from the area where co-active activities occur and on which objects used in the activities are placed. Initially, one object used in a single activity is present. The object may be a toy used in a movement sequence, the child's washcloth, the child's cup, or the box used to carry materials to an activity. Prior to the activity, the adult and child go together to the anticipation shelf, pick up the object, and proceed to the activity. At the completion of the activity, the object is returned to the shelf and deposited in a "finished box."

The purpose of the anticipation shelf is to encourage the child's decontextualization of anticipation of an activity by observing an object that is a component of the activity, but that is spatially separated from the activity location and temporally separated from its occurrence. The adult uses the anticipation shelf as a focus for communication, through demonstration, about the coming activity. Communications surrounding the anticipation shelf should be focused on the activity and the object's role in the activity, rather than on picking up, carrying, and returning the object. The eventual goal of use of the anticipation shelf is for objects on the shelf to come to represent the activity to the child, not just to evoke anticipatory responses from the child.

When a coming activity is anticipated from observing an object on the anticipation shelf, objects for other activities are added until there is an object for each of the child's daily activities. More than one object may be placed on the shelf to provide the child with an opportunity to communicate his choice of activities.

As the child begins to understand that any object on the anticipation shelf represents the activity in which it is used, different objects used in an activity are substituted for the original object. For example, if the child's washcloth was used to indicate a washing activity, the adult might replace it with the child's towel or a bar of soap. The child's understanding of objects as representations of activities is further encouraged by substituting objects used by the adult, but not the child, in the activity and by including objects similar, but not identical, to those used in the activity. These strategies keep the child focused on the representational nature of objects on the anticipation shelf, and they discourage understanding of objects on the shelf only as signals for action.

When use of the anticipation shelf is understood, the shelf is partitioned and objects for each activity are placed in compartments in order of their daily occurrence. As each activity is completed and the object returned to the "finished box," the child obtains the next object on the shelf to prepare for the next activity. When the sequential nature of the anticipation shelf is understood, the object is returned to its compartment and use of the "finished box" is discontinued. Changes in the sequence of daily activities are reflected in changes

in the order of the objects in the compartments.

Nonrepresentational Reference Activities

The child's understanding of representations of people and their actions is also developed through nonrepresentational reference activities. The initial nonrepresentational reference activities are co-active. Later activities, however, assume that the child has achieved sufficient separation from the environment to use nonrepresentational acts, such as touching, abbreviated reaches, or pointing, to denote things of interest in the environment to others.

Nonrepresentational reference activities begin with the adult and child co-actively rubbing, then touching, and finally pointing to parts of their own bodies. When the child can refer to his own body parts with the adult as a model, a large doll is introduced as the model. The adult then points to or moves parts of the doll, and the child responds by pointing to or moving the corresponding part of his own body. More abstract representations of the human body are then introduced, including smaller dolls, clay and cardboard figures, and, finally, progressively more abstract drawings of people and their actions.

Imitation Activities

Imitation activities focus on the child's ability to represent or depict the actions of objects and others. The activities are designed to develop distance between the child's representational action (the imitation) and that which is represented (the adult's or object's action). Imitation activities are similar to co-active movement activities except that temporal distance is progressively introduced. Imitation activities begin with the adult initiating a familiar movement (walking, crawling, scooting) while the child observes. The child is then invited to copy the movement and join the adult to complete the movement co-actively. Gradually, the adult performs more of the movement while the child observes, until the adult completes the entire movement and returns to the starting position before the child begins. Once a repertoire of movements performed in imitation is established, sequences of movements are added for the child to imitate. Imitation activities are further expanded by increasing the number of component actions in the sequence, adding finer movements, including objects, and incorporating imitation within daily living, gymnastic, art, and music activities.

All imitation activities focus on the child's understanding of the correspondence between his actions and those he observes, and on the child's ability to depict the dynamic qualities of observed actions. Imitation activities may also be utilized to demonstrate to the child how to do things. Because the purpose of imitation activities is to develop the child's ability to depict actions, the adult should not focus on the precision of the imitation or use manipulation to assist the child to imitate correctly. Imitation must arise from the child's observation and internalization of observed actions. It must not become a rote motor pattern elicited by external cues and supported by prompts and extrinsic reinforcement. Trained imitative behaviors are not depictive representations and, therefore, will not denaturalize to become gestures. The child who is "stuck" at the imitative level probably does not understand that his actions can depict the actions of people and objects. For these children, the development of representational abilities is probably best approached through the use of the anticipation shelf, calendar, and through imitation within functional activities the child thoroughly understands and regularly performs, such as dressing, eating, and gymnastic activities. Within these activities, the correspondence between the child's actions and those he observes are more salient, increasing the likelihood that the child will understand the depictive relationship between observed actions and his own.

Calendar Activities

Calendar activities build upon the child's knowledge of how objects, activities, and people may be represented. This knowledge is evident from the child's understanding of the anticipation shelf and nonrepresentational reference activities. Calendar activities begin with drawing the object on the anticipation shelf prior to each activity. While drawing, the adult makes continuous reference to the object and drawing so that both are understood to represent the activity. The child should participate in the drawing as much as possible. As it becomes clear that the child understands that the drawing represents the activity, the anticipation shelf is replaced by a calendar of drawings. The calendar is then used in much the same way as the anticipation shelf.

At the conclusion of each activity, conversation about the activity includes drawing with the child the elements of the activity of greatest interest to the child. The completed picture then becomes the focus of conversation about the activity. In the conversation, the picture is referred to and the adult demonstrates aspects of the activity using the object in the picture. Natural pauses are included in the conversation so that the child is encouraged to contribute.

As the child understands drawings to be representations of activities, the drawings become more abstract, contain different elements and perspectives, and incorporate the movements within the activities. Discussion of the activities may also be delayed and all activities reviewed with the child at the end of the day. Each change is paced according to the child's developing understanding of representations and his ability to decontextualize the representations from the activity they represent.

Drawing may also be used within activities to depict actions or sequences of actions to be carried out. For example, the adult and child may draw a sequence of pictures describing a cooking or construction activity as a means of instruction about the activity. These drawings may be brought to the calendar following completion of the activity to serve as a focus for conversation.

GESTURES

Natural gestures arise from the abbreviation and abstraction (denaturalization) of depictive imitation and actions on objects. They represent to the child, and can be understood by others to represent, a particular object or activity. Natural gestures demonstrate the dynamic property of the object or activity most salient to the individual child. Thus, the natural gesture for "ball" for different children might be a throwing motion, a bouncing motion, or a pushing motion depending on how the ball is typically used. The form of established natural gestures undergoes a continuing process of denaturalization and their communicative use undergoes continuing decontextualization.

Gestures should not be taught because they will then not represent the child's conception of the experienced event, nor will the child be encouraged to denaturalize imitations and actions. The child who does not spontaneously create gestures is not at the gestural level. Gestures, however, should be used by the adult to communicate with the child at both the gesture and imitation level. The adult's gestures for objects and activities should depict the way the child uses the object or the child's actions within the activity.

CONCLUSION

We have described the Van Dijk program to the point at which the child can begin to learn and use language, either manual or oral, as a system of symbols rather than as a set of signals for action. We are acutely aware, however, that we have provided only an overview and interpretation of an extremely complex approach to the development of prelanguage communicative abilities. Our emphasis, here, has been on the cognitive abilities that underlie communicative development, rather than

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on the forms and functions of either the child's or the adult's communications. We also recognize that the reader introduced to the methods for the first time probably has not been provided sufficient detail to apply the program successfully. However, nowhere is Van Dijk's approach completely explicit. Our interpretations are based on familiarity with the child development literature and our experiences with severely handicapped children. For those who feel the Van Dijk approach may benefit the children they serve, we recommend careful reading of the cited references as an initial step toward a fuller understanding of the approach.

We have found the Van Dijk approach to be a useful framework for designing developmentally appropriate intervention programs and an effective means of assisting preverbal children to reach their developmental potential. Rates of progress, of course, will vary considerably among children and for some children, resonance or co-active activities may always be the types of activities most developmentally appropriate. Application of the Van Dijk method has been limited to a few day and residential programs serving deaf-blind and severely-profoundly handicapped children. We have presented the approach here because we feel it has applicability to a broad range of preverbal children, regardless of the type and severity of their impairments and regardless of the setting in which they are served.

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ARTICLE ONE

SELF-ASSESSMENT QUESTIONS

1. An example of the use of cognitive abilities to achieve noncognitive goals is:
   (a) searching under a napkin for a cookie, but not for a toy
   (b) watching an adult assemble a toy
   (c) pointing to an object to draw the adult's attention to it
   (d) playing with a doll by moving its arms and legs
2. Actions that may be considered communicative are:
   (a) restarting swaying in a resonance activity
   (b) pushing the adult's hand away
   (c) whining
   (d) all of the above
3. The primary goal of imitation activities in the Van Dijk program is to:

(a) teach the child how to carry out activities
(b) encourage gross and fine motor development
(c) develop the child's ability to depict actions
(d) encourage compliance to adult requests

4. Natural gestures develop:
(a) from the denaturalization of imitations
(b) through praising the child for imitating
(c) as a result of observation of the adult's use of gestures
(d) all of the above

5. Termination of signals should be responded to by:
(a) ignoring them
(b) restarting the activity
(c) modifying or ceasing the activity
(d) disciplining the child

OVERVIEW OF THE VAN DIJK CURRICULAR APPROACH
by
Stephanie Z.C. MacFarland

I. Philosophical Basis

A. The Whole Child Approach

1. I<>you, encounter each other in WE. This is the philosophical premise that van Dijk espouses as "A living along with the child: How can I experience with him so I can better understand his meanings, values, and choices."

2. This encounter, reciprocation, is a basic form of dialogue between the two involved which gradually becomes more sophisticated based upon the learner's overall development and specifically in terms of his/her language development or formal communication system. Most importantly, it always will have the foundation of a secure mutual exchange between one human being and another.

3. Three important considerations to always keep in mind throughout the approach are turn-taking (reciprocation), evoking communicative signals, and distancing.)

II. Van Dijk's Learning Theory for Children who are Deaf/Blind

A. 10 Theoretical Principles (see attached table)

III. Child Outcome Characteristics and Instructional Strategies

A. Child outcome: Develcpment of initial attachment and security.

1. Resonance phenomenon strategies:

a. Resonance takes place at a pre-conscious level (reflexive reactions to stimuli, a reverberation of physical, vocal, and/or affective behaviors).

b. Resonance activities encourage the learner to shift self-stimulatory behaviors to behaviors that involve other persons and objects.

c. The teacher follows (joins in) the learner's behavior and begins to lay the foundation for turn-taking interactions. Rapport and trust are developing.

d. Example: The child is banging on the table with her hands, and the teacher joins in by banging on the table with her hands. The child stops; the teacher stops. The child begins; the teacher begins.

B. Child Outcome: Development of near and distance senses in relation to the world: near senses (gross proprioception, tactual sense, body image, residual vision) and distant senses (residual hearing, residual vision)

1. Co-active movement strategies:

a. Co-active movement is an extension of resonance, but the difference is that the learner is more conscious of the "turn-taking" aspect and the person involved in the dialogue (interchange).

b. The teacher follows the student's movements (actions) in a reciprocating fashion. Also, the learner may follow a teacher initiated movement. The student soon discovers that: "When I do this; s/he does it too!" The student learns to feel that s/he has some control over his/her world.

c. Co-active movements are expanded to chains (sequences) of movements, which have obvious starting and ending points. The student practices the chain until s/he knows it. For example, the chain can be a task sequence (i.e., steps in dressing) or a motor circuit that the learner completes in designated rounds.

d. The evoking of signal behavior:

--change the chain by eliminating the learner's favorite movement.
--observe the learner's reaction to the change.
--the learner initiates his own signal in response to the change during this arousal state.
--this arousal state is the crucial time for the teacher to give the learner reinforcement (within 5 seconds!!).
--the reinforcement is always unique to the learner and the reinforcement should be as natural as possible. For example, after the learner signals, the reinforcement is restoring the chain (continuing with the co-active movement sequence).
--extrinsic reinforcement: When a natural reinforcer is not strong enough for the learner, the teacher should add and carefully choose an extrinsic reinforcer (e.g., the learner imitates the gesture for "bicycle" > together they get the bike and the learner rides the bike).

2. Co-active manipulation strategy:

   a. Co-active manipulation involves hand-over-hand instruction during the student's daily living routine (e.g., meals, grooming, games, washing the dishes, etc.).

   b. Co-active manipulation is gradually lessened (distance is taken) as the student gains more security and independence in his/her daily routine.

3. Non-representational reference strategies:

   a. Non-representational reference is an essential part of symbol development. Often it occurs with co-active manipulation. The student and partner encounter a common thing (inanimate or animate) without actually having a referent (a name) to that "thing"; communication still takes place. They find communicative sense: they look together at the thing; together they may touch it or point to it. This act of "reference" is a social one and is a prerequisite to symbol formation.

   b. Activities are developed in structured daily settings such as during the learner's bath, grooming and dressing times where non-representational reference is used to help the learner understand his/her own body image. Also, non-representational reference strategies can be used during play and transition periods where many opportunities occur to share interesting "things" (e.g., that ivory soap floats in the bath water).

4. Imitation instructional strategies:

   a. Imitation strategies are a higher order and extension of co-active movement strategies. The student is able to follow the actions of the teacher (or peer, parent, etc.) without any physical support (except in the case where a student is totally deaf-blind with whom co-active manipulation must be provided as an initial imitative model). There are two basic levels of imitation:

      Parallel Imitation: The teacher chooses movements from the student's repertoire of movements. The teacher makes the learner very aware that s/he must imitate what the teacher does (initial teaching may involve co-active manipulation and/or physical cues). The imitation is immediate and parallel: very little time elapses between the movement the teacher initiates and what the student imitates.

Deferred Imitation: A temporal distance is gradually introduced. Precision of imitation is not the focus: the focus is the learner's observation and internalization of the teacher's demonstrated actions. The teacher begins with gross symmetrical movements and progressively adds fine asymmetrical movements to be imitated.

b. Imitation strategies can be incorporated into daily activities, for example dressing, pouring drinks, setting the table, playing with makeup (when age and situational appropriate). The teacher should involve peers as much as possible. The teacher creatively plans activities where students interact and imitate one another.

5. Drawing instructional strategies:

a. Drawing promotes the use of residual vision and allows the student to have a communicative medium that is clear for the student and the teacher. Drawing encourages active rather than passive behavior from the student, and it provides a static communicative referent.

b. Drawing is used in various ways throughout the learner's program. Drawing is always implemented within the context of daily events for the individual learner. The choice and use of colors in drawing can be very important for the learner. Some examples of drawing incorporated within the program for a student are:

--co-actively tracing objects with the student's finger or with a large marker for the development of a schematized object of reference for a particular activity.
--drawing familiar objects based upon their main attributes (e.g., the specific color, shape, characteristics (markings/patterns)) to be used as daily-event references for the student's personal "calendar".
--using drawn reference cards illustrating movements that the student imitates or a series of pictorial steps that direct the student to accomplish a task.

1. The student who is totally blind may use raised, two dimensional drawings and/or schematized objects or forms.

c. The teacher always is consistent in how s/he and the student draw the pictures and only changes the drawing to a more complicated level when s/he is sure that the student is ready.

6. Vibrational-sound induced strategies:

a. These strategies are designed to encourage auditory conditioning and auditory attentive behaviors in the context of functional activities as well as natural settings. These vibrational-sound induced strategies are often combined with co-active movement sequences, co-active manipulation, non-representational reference, and/or imitation strategies.

b. Vibrational-sound can be integrated into an activity in a variety of ways: the teacher's voice, audio-tape with amplifiers, drums, special flooring that conducts sound through vibration, or a FM receiver.

C. Child Outcome: Development of the ability to structure his/her world

1. Discrimination instructional strategies (i.e., sorting, comparing, ordering, grouping, and choosing) :

a. When the student is at a pre-symbolic language level with very little interactive skills, basic discrimination strategies are used to teach the student to be aware of objects in his/her near and far environments. With the initial use of contrasting functional objects, the student learns to interact with objects in a meaningful way and learns that the objects have distinct attributes which can be compared, sorted, and chosen. For example, during circle time, the student is presented a large pillow to sit on and a hairbrush. The student should be able to choose the pillow based upon past experience and recognition of the contextual function of the pillow.

b. As the learner progresses, the teacher uses pragmatic and academic discrimination strategies. These strategies are presented in a more pragmatic and complex structure such as setting the table, sorting washed clothes, choosing a snack from choice cards, or grouping photo's of family-members vs school-members. In a more academic activity, the student may be learning to use discriminatory skills to sort, compare, order, and/or choose letters/words from a language experience story.

2. Characterizing strategies:

   a. Characterizing strategies assist the student to build a repertoire of communicative referents. By choosing a characteristic attribute of meaningful entities, the teacher assists the student to associate communicative meaning with the attribute. Characterizing the learner's world is a means to talk about his/her world, structure his/her world, remember his/her world, and to anticipate what his/her world is about (e.g., understanding the concept of future). People, animals and objects, events, time, and emotions can be characterized by the learner.

   b. Encouraging the student to realize and use a characteristic attribute can be accomplished through (1) a natural gesture, (2) an associative object (objects of reference), (3) a smell, (4) a taste, (5) a texture, (6) a sound, (7) a picture (drawing), (8) a 3 dimensional model, and/or (9) a written, spoken, and or fingerspelled word. For example, characterizing the teacher by a pendent is possible if she consistently wears the same one, or characterizing orientation and mobility by the wrist watch the instructor consistently wears. .

   c. Characterizing strategies are especially important for the development of symbolic language. The distancing principle must be incorporated in the strategies as the student progresses and the teacher must be very aware about the learner's preferred learning modality(s). For example, the same blue tote bag for swimming can be gradually associated to a drawn representation where the blue color of the bag is emphasized for swim day on the learner's schedule.

3. Sequential memory strategies:

   a. The co-active movement sequences previously mentioned are one means of providing an opportunity for memory development. The teacher uses schedules (often referred to as calendar, sequence or memory boxes) and the diary (or memory book) to help the student understand and remember certain time sequences. Through schedules and diaries, the teacher can help the student comprehend the beginning and the end of an event task, or activity; the schedule of events for the day; and, the special experiences that have passed or will occur in the near future.

1. Schedules: Schedules come in various sizes and shapes depending upon the student's preferred learning modalities. Schedules are pivotal within the learner's daily program in that they provide a consistent framework that can be progressively and flexibly augmented by the teacher to build many skills and concepts (e.g., communication and language skills, organizational skills, and concepts of symbols, time, space and distance).

2. The diary is a means for the student to record special thoughts, memories of past events, things or people, special occasions to come, and emotions. The student always has the opportunity to refer back to his/her diary alone or together with the teacher or peers.

b. Sequential memory strategies work concurrently with characterizing activities, and drawing activities.

D. Child Outcome: Development of natural communication systems

1. Conversational communication strategies:

a. Conversational communication strategies are integrated throughout the students total programming. The teacher must plan the daily activities/tasks and organize the learning environments so as to integrate meaningful communication opportunities for the student. The teacher must provide clear communicative forms with their referents (function) so that the student can eventually, connect the meaning between the two (form & function) and generalize its meaning. The teacher encourages a communicative dialogue within the context of the activity or situation at hand.

2. Anticipatory communication strategies:

a. Anticipatory communication strategies are founded upon routine. For example, when a familiar activity is changed, purposely or coincidentally, the student has the opportunity to express his/her awareness that something is different. The teacher must be alert to the student's anticipatory state so as to take the opportunity to expand the student's understanding of this particular situation. The teacher can incorporate pleasant and curiosity-provoking conditions into an activity to elicit anticipatory behavior (e.g., finding something unexpected when going for a walk or "accidently" shaking up a soda pop and opening it).

b. Anticipation is one of the most essential components in developing language in the van Dijk approach. Anticipation building is integrated in most all program activities.

3. Symbolic communication strategies:

a. These strategies are the bridge between the learner's use of natural symbols and truly symbolic language. The teacher uses fading and shaping procedures to refine natural symbols to drawings, written words, to the fingerspelled words, formal signs, and/or speech that is of the language of the student's culture.

b. Through the integrated use of the student's learning modalities--visual (e.g., drawing), auditory (e.g., listening to the teacher's directions), tactual (e.g., feeling objects and raised drawings), motor (e.g., signing), and/or visual-auditory (e.g., written word after speech), the student is able to remember natural symbols and more easily retrieve them across different situations.

c. Symbolic communication strategies help the student use problem solving behavior in regard to the constructs of language. Using meaningful experiences, the teacher develops reading and comprehension lessons for the student. For example, while at the pet store, the teacher plans that the student may feet some of the fish and birds. During the experience, the teacher makes two braille reference cards with the student with small bagged samples of bird feed and fish food attached to each card. Gradually, the actual bird and fish food would be faded out and the braille words would remain. Also, the teacher would use this pet store experience in another lesson at school.

d. The teacher must be very aware of how the student is communicating. The teacher may ask: Is the student using natural gestures spontaneously and in a generalized way? Is student imitating a series of detailed actions without repeated prompts or an immediate model? Is the student showing problem-solving behavior in the ways s/he tries to communicate with others?

STEPHANIE MACFARLAND

March 4, 1994

Operationalized Theoretical Principles on Two Levels: Child Characterisitics and Teacher Instructional Strategies

Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
1. All children partially or totally deprived from birth of hearing and vision demonstrate behaviors that neurologically coincide with the subcortical organization of the central nervous system (CNS). This subcortical organization is plastic and can be influenced to stimulate and develop higher levels of cortical organization in the CNS.	1. Children who are partially or totally, visually and hearing impaired from birth may exhibit self-stimulatory behaviors, ritualistic, stereotyped behaviors (e.g., finger flicking in front of the eyes, eye pushing, rhythmical rocking). These behaviors are basic compensation to the whole child's physical being for the lack of normal, sensory stimulation. These behaviors initially take place at a preconscious level (reflexive) reactions to stimuli, and as the child develops, the behaviors become learned and more ritualistic due to deprivation of bonding, nurturance, and healthy, consistent interactions. Given teacher intervention the child learns to shift self-stimulatory behaviors to behaviors that involve other persons and objects.	1. Through teacher intervention strategies and activities (namely resonance activities), the child's self-stimulatory behaviors can be redirected, stopped or changed to allow for functional and meaningful interactional behaviors to be learned. The teacher must be alert in recognizing, following, and joining in the child's behaviors no matter how basic and self-stimulatory they may appear. The activities gradually involve close physical contact or proximity. The teacher begins to build a basic level of communication and rapport with the child through turn-taking interactions and signalling dialogue (e.g., gross and fine body movements, vocalizations, breathing rates, laughing, etc.).

Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
2. The integration of various sensory pathways of hearing, vision touch, taste, and proprioception is an activity of the higher cortical organization of the CNS. This integration of the various sensory pathways allows the child to more clearly perceive the world around him.	2. Due to the lack of normal sensory input (stimulation), the child must learn to use his remaining senses to receive as much information about his environment as possible. Given intervention, the child learns to use his level of hearing, vision, touch, taste, and motor abilities to progressively gain more understanding of and active participation in the world around him. The child learns that through his remaining sensory pathways, he can associate meaning to his world and can gain more functional use of his senses for interaction and communication. Example: A child hears a sound (his name being called) and is taught to turn toward the sound to be tickled.	2. The teacher develops and implements strategies and activities that best meaningfully challenge the child's remaining senses of hearing, vision, touch, taste, and motor abilities. The teacher systematically introduces, assesses, and maintains the child's sensory learning skills in functional and meaningful activities. The teacher provides learning strategies, activities, and content to the child that addresses/stimulates the necessary senses that are required of the particular targeted learning objective/ skill. The teacher is alert to the child's unique sensory reactions to the strategies, materials, and activities presented. Example: The teacher develops a tangible schedule for a child where objects of reference are highly motivating and have high visual contrast for facilitating the student's residual vision.

Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
3. The development of the child's initial concepts of the environment is based upon motor patterns that are involved in the handling of things-of-action: most things-of-action hold certain attributes that promote specific motor functions and, therefore, lead to concept formation.	3. The child with dual sensory impairments needs to have meaningful and functional experiences in her environments (home, school, & community) to become actively involved with objects, people and animals that provide him consistent stimulation, satisfaction, and dissatisfaction. The child's memory is being challenged through the building of motor patterns and interactions through which he learns to recognize, associate, and discriminate these things of action. Example: A child associates a cup with drinking, so he learns to hold it correctly to bring the liquid to his mouth.	3. The teacher develops and implements strategies to provide meaningful and challenging learning sequences for the child. These sequences are "constantly" monitored to check the child's interests to, discrimination of, and the memory of functional sequences of daily activities, events, and interactions. The teacher must recognize the meaningful attributes with which the child most clearly associates meaning. The teacher develops communicative referents based upon these child-centered meaningful attributes of "these things-of-action." Example: The teacher provides the child with a special cup for drinking at break time, and it is used as a referent in the child's schedule.

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Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
4. The development of attachment and security through intimate human contact is essential for self-concept, object formation, and subsequent symbol formation: A nurturing, social interaction between the child and the teacher allows for the sharing of a situation in reference to the "world of things." This intimate contact is accomplished through imitative (resonating and/or co-active) movements between the child and a consistent partner (response-contingent interaction).	4. For the child with severe dual sensory impairments the world is full of "things" that can basically give pleasure or displeasure. The child must feel secure in his world to want to take risks in discovering new things of meaning. Trusting and bonding to specific individuals is necessary in learning to take certain risks and in developing self-concept and self-esteem. The child initiates communicative responses to the teacher's interactive guidance which in turn leads to a interactive movement dialogue between child and teacher. Example: The child grabs the teacher's hand and places the hand on his stomach to be tickled.	4. The teacher accepts the child as he is and follows his initial ways of interacting with his world. These initial interactions are through acknowledging and imitating the child's self-stimulatory behaviors; understanding of and addressing the child's basic needs of hunger, thirst, hygiene, pleasure, and consolation; sharing a meaningful experience, activity, or event; and, establishing turn-taking behavior between the child and the teacher. Mutual sharing and turn-taking lead to the child's feelings of trust and attachment, and establishes the foundation for communicative dialogue. Example: The teacher accepts the child's request to be tickled, tickles her, and then pauses for a signal to continue the game.

Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
5. Development can be seen as the progressive distancing between the child and the world of action, and the principle of analogous function (the principle that a learned skill progressively can become more internalized and integrated with similar skills through different analogous processes). Distancing and analogous function are a means by which the child gradually leaves concrete understandings and iconic representations of the world and moves toward conceptual understandings and schematized representations of the world.	5. The child with severe dual sensory impairments often remains in "the-here-and-now-world"--that world which is immediate. With the basis of trust between or among significant individuals in her life, the child progressively distances herself from needing immediate contact and satisfaction with animate and inanimate objects. Through varied meaningful experiences, the child gains a repertoire of skills that are integrated in such that these skills can be used in more challenging situations. The child becomes an active participant and learner. Example: The child walks to his tangible schedule and scans from left to right; he takes his "break" reference (a mug handle) from his schedule and makes the drink gesture.	5. Through varied experiences planned by the teacher that are integrated in the respect that related skills across learning domains are used, consistently reinforced, practiced, and advanced (until the child reaches criterion), the child gains a more generalized understanding of and a shared reference to his world. The teacher is an ongoing evaluator and knows when to challenge a student to reach higher levels of understanding, interaction, and application of skills in an expanded world. Example: The teacher distances herself from the child as he goes to the schedule box. The teacher watches how the child scans the sequence boxes. She waits. The teacher approaches the child after he picked up the correct referent and stands there for 30 seconds. She asks the student "What's next?" The student makes the "drink" gesture.

Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
6. The child becomes conscious that he is the center of the movement: he is acting upon the environment and incorporating experiences of the ordering of time and space. Thus the child learns to structure his world.	6. The child who is severely dual sensory impaired learns through consistent references across settings that he has some control over his environments and he can be an active participant. His self-concept is more identified and the child learns that his environments are surveyable in terms of people, events, activities, locations, and time sequences. Example: A child takes his "break" reference card and walks to the lounge.	6. Through systematic intervention strategies, the teacher provides the student with opportunities to gain independence and interdependence over his actions within environments. The teacher thoughtfully develops meaningful parameters that help the student to understand concepts of time and space that are functional to his individual sensory and learning modes. Example: The teacher provides meaningful cues for the student to find his way to the lounge (e.g., the smell of coffee brewing).

Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
7. In the child's structuring of his world, the building of anticipatory situations leads to expectations and provokes a stronger reaction and association to the expected and unexpected sequential events.	7. Once a child with severe dual sensory impairment has an understanding of order in his immediate environments, the child holds certain expectations of how that order works. The child's anticipation of expected events fosters a more aroused state; therefore, the child is more active when presented with novel stimulation within a familiar routine. Example: A child pauses, screams, and throws down a new object that is in his schedule box.	7. The teacher plans, implements and creatively "on-the-spot" executes instructional strategies and lessons that challenge the child's anticipatory reactions and active learning. The teacher's goal is to invoke the child to initiate communicative responses, thus cognitive processes, to novel and familiar events within a sequential framework. The teacher notices that the child's toothbrush bristles are worn. She knows that this is not salient enough for the child to understand that a new toothbrush is needed. The teacher "educationally sabotages" the toothbrush to break during brushing and plans a lesson involving the ideas of break, new, and buying a new toothbrush, etc.

Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
8. Through functional pragmatic associations between the child and his world of events, the child attains a repertoire of natural symbols: signs, signals, gestures, drawings, and referential objects which become differentiated, gradually generalized, and spontaneously used in other environments.	8. The child needs functional ways to expressively and receptively communicate.These communicative ways are based upon the individual child's sensory and learning abilities, and are founded in meaning based upon their use and association to real-life events, people, and objects within the child's world. The child progressively learns to communicate across different people, settings, and situations using his repertoire of natural symbols. Example: The child requests the presence of his father by patting his own face to represent his father's beard.	8. The teacher develops and implements communication systems that are child-centered and are used in meaningful contexts. Through planned and spontaneous activities and interactions, the teacher consistently challenges the child to use and develop his communicative skills with different people, in different contexts, and across different settings. Example: The teacher uses the calendar/schedule as a communication system that prefaces, enhances an ongoing activity, and ends an activity whereby a variety of experiences can be referenced and discussed in the future.

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Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
9. The child's use of this repertoire of natural symbols is a form of pragmatic communication. What is essential is a "shift-of-function" of this repertoire toward symbol consciousness--language.	9. Once a child with severe dual sensory impairments has a system of functional communication, the child is challenged to gain more schematized and abstract forms of communication. The challenge is to provide the opportunity for the child to reach the symbolic language system of the child's homeland, which can be via formal sign language, speech, written language, pictorial, or a combination of these modes. Example: The child takes the picture of his father, points to it, and requests his father by patting his own face and then attempts to fingerspell "dad" to the teacher by forming the letter "d".	9. The teacher plans and implements systematic learning interventions and opportunities to broaden the child's repertoire of existing communication and to challenge the child's possible ability to become a symbolic language user. The teacher uses fading and shaping procedures (e.g., paired associations) to gradually teach the child to understand and use a more schematized and abstract referent within meaningful contexts. Example: The teacher draws the child's father, mother, and child himself when discussing the child's trip home for the weekend. The teacher points with the child to each individual and signs the happy greetings they will have seeing one another. She then writes captions (i.e., speech balloons) for each figure expressing thier happy greetings.

Theoretical Principles	Child Characteristics Related to Principles	Teacher Instructional Strategies Related to Principles and Child Characteristics
10. The shift-of-function occurs by an inner organismic schematizing activity which is a means of transferring natural referents to depictive and denotative functions of symbols. The child at this level demonstrates behaviors that neurologically coincide with higher level cortical organizations of the CNS.	10. Within varying environments or during familiar or novel routines with a partner, the child initiates spontaneous or creative use of schematized or abstract symbolic communicative referents. The child shows his understanding that this more abstract symbol is a meaningful way to communicate his needs. Example: While out in the community at the pet store, the child must by some fish food. She has to discriminate among two types of pet food: fish and bird food. The child smells some fish food and feels a bag of bird seed. She takes the fish food and signs to the teacher "Fish eat, yes. Buy."	10. The teacher recognizes the child's communicative abilities and systematically plans and provides varied learning experiences that will invoke the child's motivation. Within these motivating activities and lessons, the teacher implements instructional strategies that establish a bridge for the child to adapt and transfer the communicative meanings of natural symbols to schematized or abstract symbols. Example: While at the pet store, the teacher plans that the student may feed some of the fish and birds. During this experience, the teacher makes two brailled reference cards with the student with small bagged samples of bird feed and fish food attached to each card.

THE GOTTSCHE CENTER
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DEAF/BLIND CLINIC

[redacted], [redacted]

October 7, 1995

[redacted] is a 1-year, 6-month old male son of [redacted] and [redacted] of Daniel, Wyoming. [redacted] was accompanied to the evaluation by his mother, [redacted]. She reported that [redacted] has been diagnosed as having a seizure disorder and this seriously and globally affects his development. She reported that there was one period when [redacted] brightened up and made significant developmental gains but he has since lapsed into an almost constant seizure situation and has regressed in almost all domains. The period of progress occurred shortly after new medication was initiated but, as she stated, did not last. She reported that [redacted] currently takes Phenobarbitol, 35 mg. in the morning and 45 mg. in the afternoon. He is also on Vigabatrim, a drug that she obtains from Canada since it yet has not been granted USDA approval. She stated that this medication is administered with a full knowledge of [redacted]'s physician.

Throughout the time spent with [redacted] and his mother, [redacted] laid on his left side on a blanket on the floor and seemed to take no notice of surroundings. He exhibited some whole body movements but whether they were purposeful or intentional could not be determined. Mrs. [redacted] explained that physical and occupational therapists from the Pinedale Learning Center come to the home on a regular basis and exercise [redacted]. On days when therapists are not present she follows through with the prescribed physical and occupational therapies.

The topic of parental adaptation and adjustment to [redacted] was broached with Mrs. [redacted], and she rather readily volunteered some guilt typical of almost any mother with a child who experiences problems as an infant. She recognizes, however, that these concerns are unproductive and tries to channel her energies toward what can be done to help [redacted]. She also acknowledged some continuing grief because of [redacted]'s condition but not to the point of overwhelming her efforts to understand what [redacted] is going through and what can be done to help him.

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In this session, efforts were made to answer questions she had regarding brain functions and treatment possibilities. Her view is, apparently, that if the seizure disorder can be adequately controlled, [redacted] then has a reasonable opportunity to develop within his capacities and conversely, as long as the seizuring problem continues, it will significantly deter his development. We also discussed some possible resources for acquiring more information. She is working with a physician whom she described as concerned and willing to enter into a collaborative effort with her, which is a relationship that she prefers. She has had some conversations with mothers of children with these problems but that has not yet yielded much in the way of information or emotional support. The [redacted] live in a relatively isolated area, as compared to the usual isolation of most of Wyoming, and therefore has fewer resources readily available to her. This means she has to extend her exploratory beyond those she has tried so far, including finding out what information is available in the local library, contacting state agencies including the local Public Health Nurse, and getting in touch with the National Epilepsy Foundation. The Deaf/Blind Clinic Team, through its director, may also serve as a source of information and support.

Robert Kelso, Ph.D.
Clinical Psychologist

Lander Vision Center

Examination and Treatment of the Eye

Mikel R. Weideman, O.D.
Doctor of Optometry

307/332-2020 556 Main Street, Lander, WY 82520

CONSULTATION REPORT

NAME: [redacted]
DOB: 04-06-94

EXAM DATE: 10-06-95
Deaf/Blind/Multi-handicapped Clinic in Lander

HISTORY

[redacted] has a seizure disorder. Parents have noticed a regression in vision and motor development recently. However, he has changed medications and his mother feels the seizures are much better controlled, but it may be too early to tell any long lasting effects. His last eye exam was by Robert Hoffman, M.D. at the University of Utah on April 11, 1995. Results of that exam revealed wandering eye movements, but no nystagmus. Eyes were grossly straight and pupils were normal. Internal and external eye health was within normal limits, with the exception of diffuse epithelial stippling in the peripheral retina. He may have a central or cortical visual impairment.

OBSERVATIONS & TESTING

I dilated his eyes today and am in agreement with Dr. Hoffman's medical assessment. I find Price to have more than mild myopia and astigmatism. With cycloplegic retinoscopy his Rx estimates to be Plano -2.50 X 180 both eyes. I have suggested to his mother Taran that we try prescription lenses to see if they may effect his visual function. Also, in addition to lenses, services for the visually handicapped may be necessary. Frankly, it is quite early to tell what he sees or doesn't see.

RECOMMENDATIONS

1. Continue with regularly scheduled eye health and vision examinations every 6 months.
2. Consider prescription lenses for full time use: Rx OD and OS/ Plano -2.00 X 180.
3. Review General Guidelines for Vision Stimulation and implement as much of that information as possible.

Sincerely,

Mikel R. Weideman, O.D.

Mikel R. Weideman, O.D.

General Guidelines for Vision Stimulation

Explained below are some suggested activities given as examples only of many possible ones. You must use your imagination. The ultimate hope is that your child will develop a memory and signal that he/she is aware of his/her surroundings and can communicate that awareness.

Activities

Keep these things in mind when you are asking your child to look at the visual targets (people or things) mentioned in the activities.

1. Use bright illumination unless the child reacts negatively. Watch for glare. Rearrange child or light source. Try to have the light source above and behind the child.
2. Do not shine lights into a child's eyes.
3. Eliminate confusing background by putting visual item against a plain background of contrasting color (dark on light or vice versa).
4. When working on choice-making, start with only one item. When accomplished, gradually add in two or three choices.
5. Do not over stimulate the child. If child reacts negatively by closing the eyes, crying or having seizures, stop what you are doing and reduce the amount of stimulation. Ask an occupational therapist trained in the use of sensory stimulation to assist you.
6. The sense of touch reinforces and adds to the visual perception and memory of something you want the child to see. Always follow visual presentation with tactile presentation.

A famous experiment by R. Held and A. Hein in 1963 showed that tactile stimulation and movement were essential to visual perception. They raised kittens in total darkness, except for the experimental situation, in which the kittens were permitted to use their vision. Each kitten was allowed to move in a circle while being suspended in a basket. The first kitten's feet were able to touch the floor to produce walking movements, while the second was simply passively carried in an identical basket. Only the active kitten developed visual perception. The passive one remained effectively blind. The sense of touch adds meaning to what is visually perceived.

Awareness and Stimulation

If your child is not following the movement of people and objects with eyes and head turn, he/she may need to spend time with fixating and focusing activities. You can make the play area, the crib and the changing table places where your baby can exercise his/her looking. Fixating generally means looking steadily at something for seconds at a time.

Research in infant visual preferences showed they enjoy looking at the following things.

1. Patterns: Try bold designs in black and white, or any dark on light contrast, such as red on white, or purple on yellow. Using a felt tip marker, you can draw bulls-eyes, checkerboards, faces, stripes, polka dots, and curved lines. Draw or glue these on the bottom of sturdy paper plates, put something inside that makes noise, glue them together around the edges and hang within child's reach in the play area. High contrast designs on fabric can decorate crib bumpers, quilts, even a smock, shirt or apron. See if your child has more interest in a particular color.

   Watch your child's eyes to see if he/she opens them wider. Also look for changes in overall body movements as a sign that he/she is paying attention to something visual. Be careful not to over stimulate your child. If your child turns away, shuts his/her eyes or cries, discontinue the stimulation. Reduce the brightness of the colors, and the amount of time spent looking at the target.

2. Faces: Your very own face is probably the most enjoyable thing your child would want to gaze upon. Children are programmed, so to speak, to enjoy peoples' faces. It's a good survival skill, as well as a way to create emotional bonding. So spend time in front of your child talking and laughing while placing your child's hands on your face. Remember this important point throughout: touch reinforces vision.

   To get visual regard of your face, you can also use a flashlight as a spot light on your face in a dim or dark room. Never shine a flashlight into your child's eyes.

3. Favorite Toys: Children love to look at their favorite toys. They usually prefer brightly colored things, red, blue, orange or black and white (get a panda bear). Try to get several seconds of interest with favorite toys. Variety is the key to interest and motivation. Also remember, toys that will make sound, especially if the child can cause the sound him/herself will more easily attract the visual attention. Bring your child's hands to the toy, because touch reinforces vision.

   Always use sound and touch to help your child be interested in looking.

Following and Tracking

The visual skill of following is a term that describes how the child fixates or stares at something, then moves both the eyes and the head to keep up with the visual target when it begins to move. Tracking involves using the eyes alone without head movement.

Most infants under four months old have jerky following, rather than smooth. They also will follow with just one eye or the other since they have not yet developed the skill of using both eyes together in a coordinated way (binocular vision). As you encourage your child to follow, use the motivating things mentioned under the fixation section, but move them very slowly at first. Start slightly to the right or left of midline and move toward the midline. Horizontal motion is easier than vertical motion for a beginner to follow.

The best things to use for tracking are listed above, (i.e. patterns, faces, favorite toys).

Cognitive Visual Skills

Recognition of familiar people, things and events.

The activities of daily life are the most appropriate experiences for allowing an infant to learn. Here are some examples. Do these things consistently as often as each situation or event occurs.

You and other people very familiar to your child are already doing this one, namely: spend time in front of your child talking, touching and letting him/her look at you. If you want to see if he knows you visually, appear in front of him/her and smile without talking. Does he/she respond? If he/she does not respond visually, try your voice. Do you get a smile or some other consistent signal that he/she recognized you? Bring in someone he/she does not know well and compare his/her response to that person. How does he/she act as you hold him/her compared to when a stranger holds him/her?

Before you give your child that next bottle, cup of juice, or spoonful of food, pause and make sure you show it to them first. In playful ways tell them, "here comes your bottle" (or cup or spoon, etc). You might try holding it just slightly right or left of center. Try to make it a habit to use the LOOK BEFORE YOU GET approach. Of course, after they look, let them touch it or hold it, to reinforce the visual meaning.

Anticipation of Routine Events

Before any routine event, such as getting ready to ride in the car, getting ready for bath, getting a dry diaper, mealtime, bedtime, choose some item that you always show them, and let them touch and hold. This item should be a part of the activity, such as: the car keys, the washrag (a bright color), a favorite bedtime toy. Do this often to try to build up an association in your child's mind between the item and the upcoming activity.

Look for expressions of anticipation, such as excited movements, smiles and vocalizing, any changes in body language. Do this only in the routine of the day. Don't try to set up an artificial situation in which you have all things lined up to present one after the other to watch their reaction. This would not give experiential meaning to any of those items.

The development of memory in an infant has been very well described by Jean Piaget and the many people who have interpreted his work. Most parents start to see evidence of their child's memory when the child begins to anticipate everyday events, as discussed in the anticipation section above. A parent might say "where's Daddy?" and the child looks toward the front door where Daddy was last seen disappearing.

Suggestions taken from ERIC Reports; author Ann Silverrain.

Basic Concepts for Vision Stimulation

Vision is a learned skill that can be enhanced and developed. As such it requires consistent, enriching experiences for complete development. Often, special needs children need extra input to optimize visual performance. Therefore, attention to the following areas is suggested for these children.

Contrast: Good contrast encourages visual behavior by reducing confusion and clutter. Dark back grounds should be used to set off light colored objects and vice versa.

Color, Size, Shape: In general, bright colors, large size and simple shapes are easier to identify and catalog than their opposites. This ease allows a reduction in "visual stresses" and increases the likelihood of visual attending behavior.

Scanning: Visual boundaries are important to help the child construct a visual environment. Scanning strategies within these boundaries allow successful visual search, attention, identification and processing.

Lighting: Often, lighting must be increased on the object of regard for best visual performance, but care must be taken with reflections, glare and selective wavelength absorption.

Multisensory: Visual learning seems to be enhanced when undertaken in conjunction with feedback and reinforcement from the other senses, particularly hearing and touch. Visual processing embeds easier and more deeply when multisensory input is utilized.

Activities for the First 3 Months of Infancy

1. Keep a light on in your child's room so that when they awake in the nighttime, they will have a stimulus to look at. The infant will find the light interesting, thus encourage using the eyes to look at objects.
2. Give your child an opportunity to see all areas of the room. Change the position of the crib so that your child will be exposed to a variety of views.
3. Make sure your baby has the chance to see moving objects as well. Sometimes a light behind a moving mobile will cast interesting shadows to look at.
4. Use high contrast targets (black and white) to stimulate vision. Higher contrast targets are easier to see and more interesting to an infant. Color vision is not developed in most children until six months of age.
5. Speak to your baby whenever you are in the room. This will develop the relationship between hearing and seeing (auditory/visual integration). Your child will then learn to look in the direction that they hear.
6. When you are dressing or feeding your baby, make sure they have lots of opportunities to focus their eyes on your face. During the first three months, your child will see most clearly at a distance of eight to ten inches from their face. Feed your baby from different sides so that they will learn to see objects coming form both the left and right sides of their body.
7. Give your baby plenty of opportunities to see your face from different directions. You can hold your baby straight in front of you and then move them up, down, right and left.

Activities for the 4 to 8 Month Old

1. During this age, a child will be able to focus on objects up to two to three feet more easily than when they were younger. Make sure there are high contrast objects at this distance so to stimu late vision.

2. Place high contrast tape on your child's bottle or hold a penlight on the bottle as you bring it closer to feed your child. Your baby will then look at the visual stimulus and be rewarded with food for using their eyes.
3. Allow your child to look at objects when lying on their stomach and back.
4. Make an eye-hand gym which has interesting objects that your baby must see before they can reach them. This will force your child to see the object and enhance eye-hand coordination as they grab it. Use objects of different sizes, colors, textures and shapes.
5. Occasionally place a familiar object so that it is partially hidden by a blanket or another object.
6. Allow them to experience crawling under objects as well as climbing over them.
7. Move opposite arms and legs to stimulate both sides of the brain at the same time. This type of bilateral stimulation is important for the development of vision because your baby's vision is dependent on using both sides of the brain.
8. Pull your child up and allow him to pull as they get closer to see your face. This will work on stimulating both sides of the brain as they point to both eyes on your face.

Activities for the 9 to 18 Month Old

1. Allow for the baby to crawl as they search for their favorite toy in another room. Stress crawling rather than walking because this provides more stimulation of both sides of the brain.
2. As your child crawls to search for their favorite toy, make obstacles so that your child must use their eyes to get around them.
3. Give your baby objects that they can push or pull. Pushing a box or ball will teach them how to coordinate their body and they will be able to see the effect when he/she pushes and pulls.
4. Provide blocks so that your child can explore stacking them visually.
5. Use a small stick with either a magnet to "fish" metal objects or you can make one with velcro. This will force your child to see the object with their eyes and learn to judge distance.
6. Provide fat crayons or markers so that your child can learn to scribble and see their "work of art".
7. Provide opportunities to play alongside another child their age. A good distance for the other child to be at is between two and four feet.
8. Allow your child to see themself in the mirror. Your child will find it very interesting to see themselves and encourage moving parts of their body.

Activities for the 18 Month to 3 Year Old

1. Now that your baby is able to move more easily, a simple gymnastics program will help develop bilateral integration. Start with sets of large pillows and cardboard boxes to use as steps. Use high contrast, alternating form dark to light for each step. As your child grows, change to equipment that requires more difficult movement of their body, avoiding obstacles which the child must see with their eyes.
2. Play catch or volleyball with a high contrast balloon.
3. Play games of rolling a beach ball to a partner.
4. Play soccer with a bright colored ball.
5. Make a maze that the child must navigate through with their tricycle or wagon.
6. Give your child high contrast beads to lace on a string. Have them copy the pattern you make.
7. Provide your child with puzzles to play with. At first use large wooden puzzles with three pieces. As their skills improve, use puzzles with more pieces.
8. Let them cut out large pictures with blunt tip scissors, trying to keep on the line.
9. Provide them with large Legos, large wooden bolts and nuts.
10. Read books together and have them point out the differences between objects, big versus small, tall versus short, dog versus cat, etc.
11. Allow your child to choose what colors of clothes they want to wear. This will force them to use their vision to discriminate colors, textures, etc.

Activities for Ages 3 to 4 Years

1. Enhance bilateral stimulation by providing your child with plenty of opportunities to experience their body in all positions, balancing, rolling and tumbling.
2. As your child demonstrates good balance, introduce roller skates with caution, depending on your child's vision.
3. Teach your child how to use tools, appliances to manipulate objects. For example, allow your child to pick up cotton balls with a set of tongs and place them into an empty tennis can.
4. Play matching games using pictures or objects. For example, have the child match up all the soup cans versus soda pop cans. This can also be done with pictures that you draw. Match all pictures with a circle, triangle, color, etc.
5. Begin to read aloud while using your finger as you go along the page. This teaches your child to move their eyes from left to right when reading. Have your child point to the picture and subject of the story.
6. Play a game of "hide and describe". Show an object to your child, then hide it with a towel or cardboard and your child will then tell you what they saw, describing the object the best they can.
7. Use a high contrast ball and roll it along a table. Your child is to try and catch the ball in a hat as it falls off the table.

Visual Stimulation - Sequence of Visual Development

Awareness - Attention - Fixations

a. Penlight - start in a dark room, turn on light, find the light. Add later - blow out light, touch the light, close eyes and open, find the light. If poor response, add sound stimulation.
b. Mother's/Father's face - talk and make noises to get child's attention.
c. "Christmas lights" on crib - line walls with aluminum foil and use blinking lights.
d. Mobiles - (ex. Infant Stim-mobile by Wimmer-Ferguson Child Products, P.O. Box 10427, Denver, CO 80210)
e. Glasses for localization of eyes.

Suggestions:

1. Use as little stimulation as possible to get visual awareness (i.e. noise, talking).
2. Change posture of child and therapist frequently.
3. Be aware of seizure prone children.
4. Watch for any facial change, postural change, head tilting, light gazing, etc. as a sign of visual awareness and attention.

Movement - Change of Fixation - Pursuits

a. Follow colored light, toy, ball.
b. Talking can.
c. Two pen light or toy jump.

Suggestions:

1. Child may need to move target themselves initially.

Eye - Hand - Body (One eye, two eyes, one or two hands)

a. Look, touch with bead/string.
b. Flashlight chase on wall.
c. Xylophone with penlight.
d. Pegs in pegboard.
e. Tooth picks or pick up sticks with raisins, Cheerios.
f. Pointer in the straw.
g. Swinging ball with bat.
h. Rolling ball.
i. Air writing while eyes pursue.
j. Fixator.
k. See Visual Motor handout for more activities.

Perception - Tangible, Concrete Objects

a. Focus on curves, lines, corners, points, contours.
b. Influenced by sizes, colors, light-dark, intensity. Increase difficulty with spatial arrangements, sizes, solid form (without inner object detail).
c. Look for likenesses and differences.
d. Match different shapes and classes of forms, objects and symbols (size, color, shape).
e. Sorting of shapes and objects.
f. Order in terms of increasing and decreasing sizes, sequence of events.
g. Recognition of missing parts of known forms, objects, letters and words (with whole visible, then without the whole visible).
h. Integration of separate parts into whole by use of puzzles, manipulation of objects, drawing from partial models from memory.
i. Pictorial figures and scenes depicting action, situation.
j. Abstract symbology - letter words, sentences, discrimination, recognition, association, perceptual interpretation and reading.
k. Visualization - concrete, abstract, manipulation.

Suggestions:

1. Parquetry Blocks, sized blocks, geoboards, puzzles, etc.,can all be modified for variable levels.

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The Minnesota Epilepsy Group of United Hospital and Children's Health Care – St. Paul

A comprehensive epilepsy care center, specializing in evaluation, treatment, consultations, research, and support services for adults and children with intractable epilepsy.

for more info call
(612) 220-5290

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Offering New Hope and Support

Living with epilepsy can seem overwhelming at times. It's a difficult condition to cope with, both physically and emotionally. Seizures, or the fear of them, can disrupt day-to-day life, making it hard to earn a living, go to school or pursue other activities. Relationships with family members and friends can suffer as well, resulting in feelings of isolation or depression.

The Minnesota Epilepsy Group of United Hospital and Children's Health Care - St. Paul offers new hope to people with epilepsy. Using advanced medical technologies and a highly individualized approach to treating patients, our specially trained staff provides comprehensive epilepsy care in a nontraditional hospital setting.

We specialize in evaluation, treatment, consultation and support services for adults and children with intractable epilepsy. These are people whose seizures have resisted treatment with antiepileptic medications in the past or who must receive their medication in such high doses that it severely impairs their abilities and consequently disrupts their day-to-day living.

Our goal is a simple one: To help our patients reduce or control their seizures and to help them learn how to most effectively manage and live with epilepsy.

It's been a wonderful blessing everything you've done to help me.

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The Most Advanced Technologies

At the Minnesota Epilepsy Group, we offer the most advanced care available — the very latest medical technologies and research that are revolutionizing epilepsy treatment.

The treatment process begins with a thorough evaluation and testing by our staff clinicians. The evaluation includes state-of-the-art brain imaging technologies, including magnetic resonance imaging (MRI), single photon emission computed tomography (SPECT), and the availability of positron emission tomography (PET) and magnetoencephalography. We also employ the most current brain-mapping techniques, including subdural electrode arrays, to help pinpoint more precisely the area of the brain causing seizures and those critical areas impacting brain function.

If medical treatment is indicated, it may involve antiepileptic medications (including some very new medications), surgery or a combination of the two. Investigational drugs are also available for our patients who meet specified criteria defined by the drug study protocol.

Everyone was very willing to help us and answer our questions.

Comprehensive and Experienced Care

In addition to offering advanced care, our treatment program is distinguished by its attention to the whole patient. It integrates the medical, psychological and social aspects of treatment. We also provide support to the patient's family.

The Minnesota Epilepsy Group's strong belief in comprehensive care is reflected in its multidisciplinary staff. The program has brought together highly dedicated and skilled professionals who can serve not only the varying medical and surgical needs of people with epilepsy, but also their psychological, social and educational needs as well. Our staff includes the following professionals:

- Neurologists specializing in adult and pediatric epilepsy
- Neurosurgeons specializing in epilepsy surgery
- Neuroradiologists
- Neurophysiologists
- Psychiatrists
- Neuropsychologists
- Clinical psychologists
- Clinical pharmacists
- Epilepsy nurse specialists
- Social workers
- Child life specialists
- Physical, speech and occupational therapists
- Certified EEG technologists

I learned more in four days than I ever thought possible.

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A Safe and Homelike Environment

The Minnesota Epilepsy Group program is a collaborative effort with United Hospital and Children's Health Care - St. Paul. United Hospital, an acute care facility with 572 licensed beds and a medical staff of more than 1,000 physicians, is one of the premier regional medical centers serving St. Paul and surrounding communities in Minnesota and western Wisconsin. Children's - St. Paul is a specialty referral center with 105 staffed beds. It is part of Children's Health Care, the largest children's health care organization in the Upper Midwest.

Patients who need to be hospitalized for their diagnostic evaluation stay in the inpatient medical/surgical facility, located on the United and Children's medical campus in St. Paul. Both the 10-bed adult and 8-bed pediatric units offer a safe and homelike environment where patients are carefully monitored by trained nurses and EEG technologists. The units are uniquely designed so that patients can move around comfortably while remaining connected to the video EEG monitoring equipment. Despite the hospital setting, the units offer many of the comforts of home.

Everyone made me feel "at home" even though it was a hospital.

To encourage the support and involvement of family and friends, we have extended visiting hours. Parents and other relatives of young patients are welcome to visit whenever they wish.

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Research Focus

The Minnesota Epilepsy Group is committed to finding more effective ways to treat people with epilepsy. People with uncontrolled epilepsy may be offered the opportunity for treatments not yet available to the general public. We conduct clinical research in these areas:

- Pharmacological management of epilepsy
- Surgical treatment of epilepsy
- Management of non-epileptic (psychogenic) seizures
- Functional cortical mapping with subdural electrode arrays and transcranial magnetic stimulation
- Neuropsychology of epilepsy, memory and behavior
- Psychosocial consequences of epilepsy
- Neuro-oncology

We have earned an outstanding reputation with our patients and with the community for conducting accurate, thorough and reliable professional clinical studies.

The care, helpfulness and precautions exceeded my expectations.

Find Out More About Us

If you are interested in the Minnesota Epilepsy Group of United Hospital and Children's Health Care - St. Paul, talk with your doctor about a referral. In our program, the patient's primary care physician maintains an active role in the treatment process. Our ultimate goal is to provide the necessary services, and then to return the patient, with a recommended course of treatment, to the care of the referring physician. In many cases, referring physicians request ongoing supervision or consultation from us. In addition, we sometimes, at the request of the referring physician, continue to manage the treatment of the patient.

Patients, their families and their physicians can receive more information about the Minnesota Epilepsy Group by calling (612) 220-5290. Our staff will answer your questions about insurance, transportation to St. Paul and housing arrangements. We will even put you in touch with someone who has already gone through the program so you can get a first-hand description of what to expect.

Physicians can also reach the Minnesota Epilepsy Group by calling the toll-free direct access number, 1-800-343-DOCS, of the Physician-to-Physician program of Allina. Physician-to-Physician is a consultant network of more than 700 physician specialists offering individual care consultation and referrals.

Adult Epileptologists

John R. Gates, M.D.

Dr. Gates received his bachelor's degree in biochemistry from Harvard University and his M.D. degree from the University of Minnesota. He completed his residency in neurology at the University of Minnesota and went on to a fellowship with the Comprehensive Epilepsy Program of Minnesota for specialized training in epilepsy and clinical neurophysiology.

He is a board certified neurologist and certified by the American Board of Clinical Neurophysiology and the American Board of Psychiatry and Neurology in Clinical Neurophysiology. He is widely published in the areas of epilepsy and clinical neurophysiology with a particular emphasis on psychogenic seizures and the surgical management of epilepsy. He has also been an active investigator in the development of new antiepileptic drugs. Dr. Gates is president of the Association of Neurologists of Minnesota.

Gerald L. Moriarty, M.D.

Dr. Moriarty received his bachelor's and master's degrees from St. Louis University and his M.D. degree from Case Western Reserve University in Cleveland, Ohio. He completed residencies in both neurology and psychiatry at the University of Rochester in New York. He also received advanced training in behavioral neurology at the University of Florida and in epilepsy and neurophysiology with the Minnesota Epilepsy Group.

He is past associate chair for the Department of Neurology and Psychiatry at Texas Tech Health Center, Amarillo, Texas. He is board certified both in neurology and psychiatry and is an examiner for The American Board of Psychiatry and Neurology.

Patricia E. Penovich, M.D.

Dr. Penovich received her bachelor's degree in chemistry from the College of Wooster, Ohio. At Case Western Reserve University, she did graduate work in pharmacology and received her M.D. degree. At the University of Rochester, she completed a neurology residency and a fellowship in clinical pharmacology. She completed additional training in EEG and epilepsy at the University of Rochester and the University of Minnesota. She is board certified in neurology and in clinical neurophysiology.

Dr. Penovich is an examiner for The American Board of Psychiatry and Neurology and for the American Board of Clinical Neurophysiology. She has published in the areas of clinical neurology, neuropharmacology and epilepsy. She is involved in research of investigational medications for the treatment of epilepsy.

Pediatric Epileptologists

Michael D. Frost, M.D.

Dr. Frost received his bachelor's degree in psychology from the University of Kansas and his M.D. degree from St. Louis University. He completed his residency in pediatrics at Children's Mercy Hospital in Kansas City, then went on to the University of Colorado's Health Sciences Center where he completed a residency and a fellowship in child neurology. He completed his training in clinical neurophysiology at Boston Children's Hospital.

Dr. Frost is board certified in pediatrics, child neurology and clinical neurophysiology. His focus lies in the areas of epilepsy and clinical neurophysiology. He is also involved in research of investigational medications. While on faculty at Phoenix Children's Hospital, Dr. Frost served as chair of the Professional Advisory Board of the Epilepsy Society of Arizona. He is currently on the Board of Directors of the Epilepsy Foundation of Minnesota.

Frank J. Ritter, M.D.

Dr. Ritter received both his bachelor's degree in biology and his M.D. degree from the University of Utah. He completed pediatric residencies at the University of Rochester, Duke University and Children's Hospital National Medical Center. He returned to the University of Utah for subspecialty training in child neurology. Dr. Ritter went on to a fellowship with the Comprehensive Epilepsy Program of Minnesota for specialized training in epilepsy and clinical neurophysiology.

He is a board certified child neurologist and pediatrician who has published in the area of epilepsy and clinical neurophysiology. He is involved in research of investigational medications and the surgical treatment of epilepsy.

Ronald H. Spiegel, M.D.

Dr. Spiegel received his bachelor's degree from Macalester College in St. Paul, Minnesota, and his M.D. degree from the University of Iowa. He completed his residency in pediatrics at the University of Michigan and then returned to the University of Iowa for a fellowship in pediatric neurology.

He is board certified in pediatrics, child neurology and clinical neurophysiology. He is also an examiner for the American Board of Psychiatry and Neurology.

Living with epilepsy can be difficult at times.
It can even be overwhelming.
But there is hope – and help – at
The Minnesota Epilepsy Group of United Hospital
and Children's Health Care - St. Paul.

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The Minnesota Epilepsy Group of United Hospital and Children's Health Care - St.Paul

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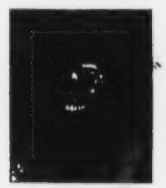

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Pediatric Epilepsy Inpatient Program

The pediatric epilepsy inpatient program of United Hospital and Children's Health Care - St. Paul provides comprehensive diagnosis and treatment in a comfortable, home-like setting. The eight-bed unit and the highly experienced, multidisciplinary staff are just two of the reasons why this epilepsy program has become so well respected.

Despite the hospital setting, the pediatric unit offers many of the comforts of home, including a lounge area for socializing and watching television, a special playroom for younger children, a refrigerator, a microwave, and a washer and dryer.

There are relaxed visiting hours to encourage visits from family and friends. Parents need not be present at all times, allowing them time to attend educational and support programs sponsored by the epilepsy unit, or to meet with consulting staff, run errands or participate in local cultural events.

A Child Life epilepsy specialist and other professionals who specialize in epilepsy provide consultation and support as needed. In addition, planned activities for patients on the unit, help children cope with the hospitalization and medical procedures.

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Place in Weiaz II

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Photographs of Guided Movement

Guided Movement

Guided Movement

Guided Movement

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LARAMIE, WY 82070

PAUL W. PHENEGER, M.D.

307-742-2131

June 5, 1995

Joanne Whitson
Services for the Visually Handicapped
Carbon Building, Room 325
Rawlins, WY 82301

Re: [redacted]

Dear Joanne:

[redacted] is a twelve year old boy with cerebral palsy, who began having seizures in the neonatal period. The work up in Denver included CT scans and MRI's. He is presently seeing Dr. Leland, a neurologist, and has been placed on 375mg of Depakote in the morning and at night. [redacted] still has seizures when tired or ill, and they can be as frequent as three to four per week. They have decreased in intensity. In the past they have been grand mal, although at present are primarily petit mal seizures. His last exam with Dr. Leland was in March of 1995, and his last MRI or CT scan was done at approximately 3 years old. An ophthalmic examination of [redacted] reveals pupils which are very slow to react to light, but Mark does react with a grimace to bright lights. There is no evidence of nystagmus, or optokinetic nystagmus. [redacted] generally has a tonic extraocular motility to the left side but will follow objects which he likes, e.g., a painted cup. Mark's refractive error is minimal, at approximately -0.50 diopters. The funduscopic examination is unremarkable.

The one aspect of the history is that [redacted] has apparently deteriorated in muscle tone and functioning since the age of three to four years old. No explanation has been put forward for this. The funduscopic examination reveals no papilledema and consequent intracranial pressure. However, I would recommend a CT scan or MRI be repeated to rule out intracranial deterioration. [redacted] should be challenged visually, especially with high contrast targets, and colorful targets which he seems to be interested in.

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he may at some point benefit from an auditory brain stem response test. There are no other recommendations at this time.

Dr. Robert Kelso
Psychologist

See attached report.

Snowy Range VISION Center

301 S. 8th St. Corner of 8th & Grand Laramie, WY 82070

LOW VISION/DEVELOPMENTAL VISION REPORT

NAME: [redacted]
DOB: 04-05-83

EXAM DATE: 06-09-95
REPORT DATE: 06-16-95

Visual assessment and subsequent intervention are critical for children with sensory/motor impairments for two main reasons: efficient vision use is important for learning and visual function can improve. Functional tests assess the visual behavior of the individual rather than just the physiological condition of the eyes. Developing a formal vision-training program may require great effort from members of the transdisciplinary team. The assessments should be followed by ongoing observations and recording of the children's visual behaviors during activities in natural, meaningful environments. (Exceptional Children, December/January, 1991)

HISTORY

[redacted] health history includes cerebral palsy and severe physical delay. His last eye health examination and vision analysis was five years ago with Dr. Halsey in Wheatland, Wyoming. At that time Dr. Halsey reported that Mark was nearsighted. Concern expressed on the written questionnaire with regard to vision was poor tracking and constant head movement. [redacted] is taking Depakote to control seizures.

OBSERVATIONS/TESTING

Cognitive ability plays a large role vision. The ability to apply meaning to what one sees is related to visual processing. There is currently controversy over whether difficulty in this area could be considered cortical vision impairment or a difficulty visually processing (or applying meaning) to what is being seen.

[redacted] head posture was tipped back, his chin thrust out and he was observed to sway his head from right to left. His head would move first, then his eyes would follow. This motion was almost constant.

Visual Acuities

The Snellen fractions, 20/20, 20/30 etc. are measures of sharpness of sight. They relate to the ability to identify a letter a certain size at a specified distance. They give no information as to whether or not meaning is obtained from visual input, how much effort is needed to see clearly or singly, whether or not vision is suppressed or less efficient when using

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Since his preferred gaze is tonically to the left, these objects may have to be presented on the left side and then brought towards the right to encourage extraocular motilities to the right.

Best regards.

Paul W. Pheneger, M.D.

PWP:pb